# CB HORIZONS

MAY 1962
40 CENTS
(50 CENTS IN CANADA)

## THE CITIZEN'S [illegible] RADIO MAGAZINE

*IN THIS ISSUE—*

**Cover Story — Wireless Remote CB Speaker**

How To Phone Patch • Power Booster-Build This CB 'Kilowatt' • Rum Runners Use CB Radio • Chicago CB Convention Report • CB License Fees? • All About CB Coverage and Much-Much More!!

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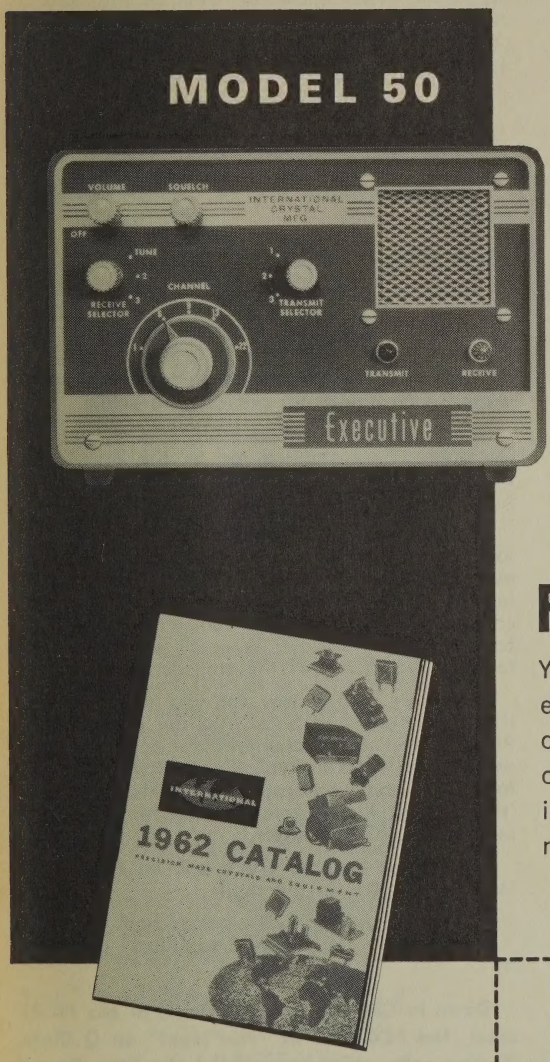


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# OZZIE'S MAIL-BOX

Dear Oz—

As a result of my CBL card being selected "CBL Card of the Month" in the February issue of CBH, I thought you might be interested in the following:

To date I have received 101 requests from CB'ers, in 17 of the CB districts including Hawaii. I even got a request from a ham operator! It has been a pleasure to send the card to everyone who has requested it.

Bob Lee
10Q2071

Ozzie—

Please let your Mitch MacKenzie (March CBH, story of Canadian GRS) know we are also contenders in the Canadian General Radio Service with a transceiver and a full line of mobile and base antennas.

John E. Thomas
Lindsay Antenna Ltd.
Lindsay, Ontario

**As a matter of point, Mr. Thomas, an estimated 25 manufacturers (many American) were at the starting gate when the Canadian version of the Class D band took off from the starting gate April 1. Who will be the first to report Canadian GRS calls XN1 through XN6 logged?**

Dear Ozzie—

Re the new 1962 Call-Book, all of the numbers are "Q" calls . . . no "W"s. How come?

Dr. Harold Peterson, M.D.
11W9026

**Several good reasons why the new book contains only Q calls Doc. Firstly, the W, A and B calls have already been covered in 3 call-books previously issued by another company. Secondly, we investigated putting all of the calls into one book, and came up with a cost estimate that looked like the national debt! Just to pay for printing, the book would have to sell for around $20.00, and it would be so heavy (like the Chicago telephone book) that it might have to be shipped by truck or railway express! Lastly, we don't own the rights to the W, A and B callsigns.**

Hey Ozzie—

Any CB'er that has a '59 Ford auto can install his whip mount without drilling holes. Simply remove the left hand back up light (up on top of the fin) and put your base mount in where the back up light was!

Richard H. Snively
Waynesboro, Pa.

**Very clever Dick . . . provided you don't mind backing up in the dark!**

Ozzie—

WOW! Thought you would like to know what happened when I stocked CBH in my store. I ordered 10 copies on a trial, and they were sold out in two hours! Next month I want 200 copies. The CB'ers love you in Georgia.

Roy L. McCulley
GA. Electronic Supply
Cartersville, Georgia

**OK you negligent dealers . . . go ahead, be martyrs!**

Friend Ozzie—

When my husband and I first read CBH we thought we had found a friend. You know, a real friend; one who would understand when you accidently said 10-4 on the landline. So we subscribed to your magazine and eagerly waited each month for our copy to arrive.

Then you did it. You really did it, back in December. You stabbed me in the back! You published that cottin pickin' schematic for the $\#\%\&*$ cue bird!!

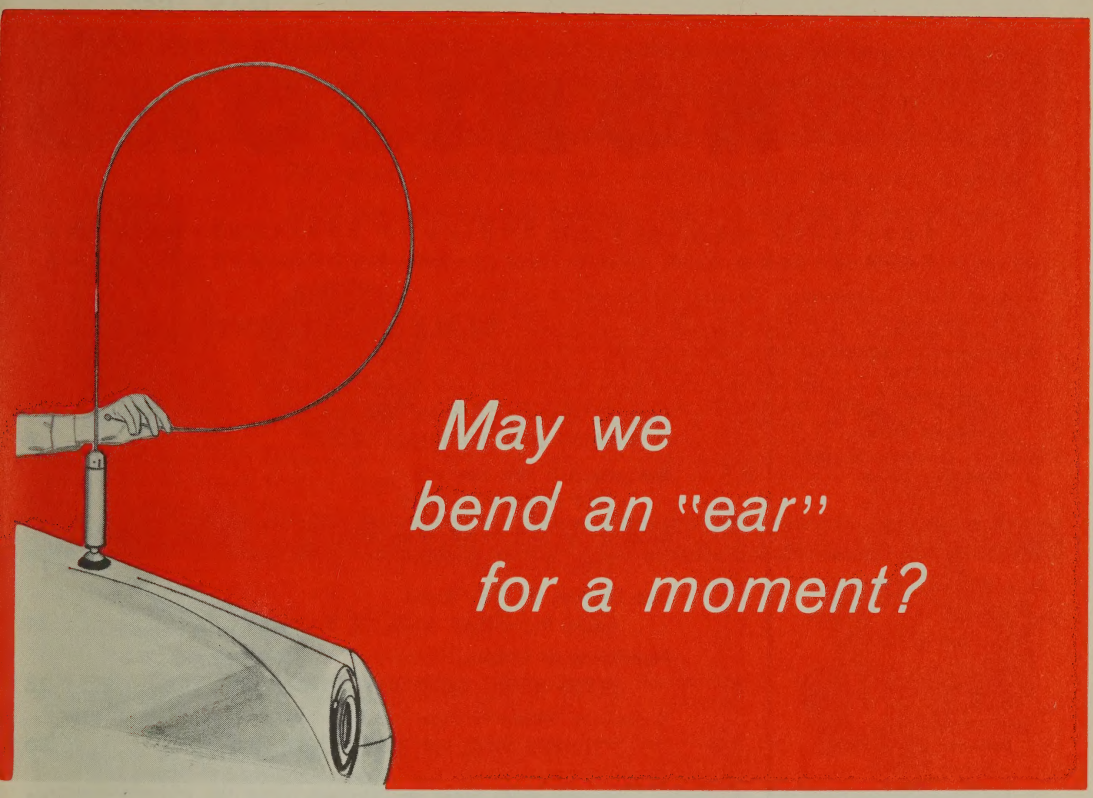
Now—how would you like to listen all day long and all night long to a sick old cow—one over energized wood pecker—a broken machine gun—a hoot owl—a lost nanny goat—a sick canary and one over worked crazy mixed up telephone busy signal?? Why it's **almost** enough to make you turn off the transceiver.

But there is one way for you to get out of the dog house and back into my good graces. Please work out a schematic for a "Bird" that sounds like a 'Koo-koo'. I'll get friend hubby to build it and I can use it in self defense to let 'them' know what I think of their birds . . . all in one push of the button!

But please—please don't publish the circuit in CBH. Send it in the mail!

18Q0429's better half
Darlene McLaughlin

**Down in Chicago town, Darlene, at the NCRL meet, the FCC told us "Not legal" on Q Birds, Turkey calls, sick canarys and the like. Course they didn't say anything about 'koo-koo' calls! Maybe the Commission feels that if we don't stop using Q Birds and their relatives on the air soon, we CB'ers will beat each other to death with the bird! Could be it's time to call out the Audubon Society?**




There's much to be said for the slim, inconspicuous, yet professional appearance of the "MAGGIE-MOBILES". Still more for their clean, crisp signal and unbelievably low noise level.

But the real point of this message is a hidden virtue you can't see or hear. It's called, "17-7 stainless steel", one of the most resilient alloys ever made. We use nothing else in our MAGGIE-MOBILES, even though it costs considerably more than the stainless steels used in run-of-the-mill whips. Here's why:

You can bend it full circle, from tip to butt; let go and it snaps back to a perfect vertical. (Don't try this with other brands.) It slips around obstructions like an eel. No breakage . . . no "water shorts".

One more reason why Antenna Specialists' brand antennas are preferred by more citizens banders than any other kind.

Switch to a **"MAGGIE-MOBILE"**
Base-loaded CB 27Mc
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Available in three simple and attractive mounts . . . 20 ft. cable with connectors attached . . . take your choice!

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Export Div., 15 Moore St., New York 4, N.Y.

MAY 1962
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**COVER:** Allied Knight-Kit Part 15 Broadcast Band transmitter Plus your CB Set Equals Wireless Remote CB Speaker!

FOR POWER OR PORTABILITY . . . UNCOMPROMISING ENGINEERING WITH

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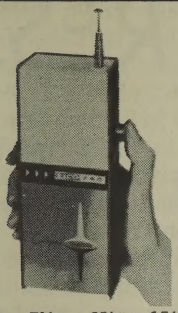

## Operates 2500 hours on 1 rechargeable leakproof battery

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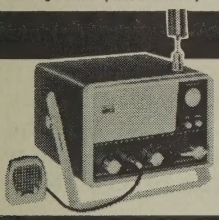
†U. S. Patent #D-190,970 *Including Posi-Lock Mounting Bracket

"A steal . . . Better than manufacturing specs . . . Publisher Cooper reports base-to-mobile contact out to 22 miles consistently, often to 40 miles . . . Thorough manual is almost a handbook for CB radio."—**CB HORIZONS**

Front panel selection of one of 3 transmit crystals with continuous receiver tuning over all 23 CB channels, or a fourth transmit crystal with appropriate receiving crystal. Press-to-talk button on microphone; transmit-receive switching accomplished by high-quality relay with minimum capacity between contacts to prevent current leakage at RF frequencies. Superhet receiver with RF stage for high sensitivity & proper signal-to-noise ratio. 1750 KC IF strip for unequalled image rejection & freedom from oscillator "pulling" on strong signals. IF strip prealigned so that only "touchup" alignment without instruments is needed. Current metering jack in series in cathode circuit allows checking of input power to transmitter final and adjusting it to FCC limit. 13-tube performance (4 dual function tubes, 4 single function tubes, plus germanium diode). Adjustable squelch control (in addition to automatic noise limiter). Optimum adjustment to any popular CB antenna assured through use of variable pi network in output. AVC. 3" x 5" oval PM speaker. Supplied complete with 8 tubes & 1 transmit crystal (extra crystals $3.95 each).

The entire transmitter oscillator circuit and RF final in every EICO transceiver, kit and wired, is premounted prewired, pretuned, and sealed at the factory (about 3 hours of skilled labor, precision adjustments and testing), complying with FCC regulations (section 19.71, part d). This permits you to build the kit and put it on the air without the supervision of a commercial radiotelephone licensee.

## STANDARD 760 SERIES



| | Kit | Wired |
|---|---|---|
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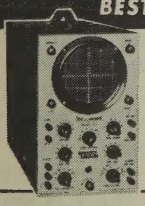
Same uncompromising engineering, same care and precision, and largely the same circuitry as in 770 series (above), lacking only multiple-channel transmitting, crystal receiving, and push-to-talk microphone.

## BEST BUYS IN SERVICE INSTRUMENTS: *everything from Scopes to Probes*



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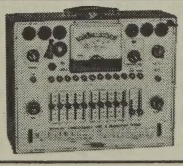

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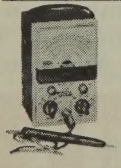

†Pat. #2,790,051

**TV-FM Sweep Generator & Marker #368**
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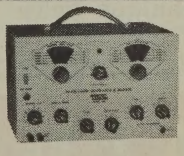

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# Look MA . . . No WIRES!

Have you ever wished you had an extension speaker on your CB set? You know, one that would keep you informed of "calls" or the doings of the local monitoring channel while you are outside the CB room? How about an extension speaker that you can carry in your pocket, even as you walk from room to room or out into the nearby front or back yard? That's right . . . *no wires* . . . a gadget that allows you to keep tabs on CB throughout the house, not just while in the CB room.

Interested? Of course you are . . . *so read on!*

Here's how you can build a gadget which does just that—and how to attach it to your CB rig so you can hear any calls, regardless of how close or far you are from the CB unit.

Years ago, "wireless microphones" were all the rage. These little units, consisting of an oscillator operating in the standard broadcast band together with a modulator for it, allowed you to "broadcast" your own program into any conventional radio in the house. With the rise of television, the fad faded away—but at least one manufacturer retained such a device in his product line.

This year, a television manufacturer revived the old idea—but with a difference. He built such a unit into his 1962-model TV, and advertised it as a wireless remote speaker. You just carry a transistor radio (tuned to the frequency of the "wireless mike") with you, and listen to the TV's audio which is being rebroadcast.

In essence, that's the technique we're using too. We connect an inexpensive "wireless mike" to the detector output of our CB unit; a conventional transistor BC receiver then becomes the wireless remote speaker for the unit.

Cost of the wireless mike we used is $12.95. Cost of parts necessary to tie the unit in to any CB rig is approximately $1. Cost of the transistor radio used as an extension (which you probably already have) can range from $9.95 up, depending on quality.

We picked the Knight-*Kit* Wireless mike (Allied Radio catalog no. 83 Y 706) because of its simplicity and low price. It took us approximately 3 hours to build, from unpacking the box to plugging it in for test—but you can and should expect to spend twice that long if you're not an experienced kit builder.

When the wireless mike kit is completed, test it by turning it on and tuning its signal in on any conventional broadcast radio. You can recognize it because it will be a strong carrier with no modulation. Now, using a small screwdriver or short piece of solder, touch the center contact of the "XTAL PHONO MIKE" input jack while turning the "volume" knob all the way on. You should hear a loud buzz in the BC set; if you do, all is well with the wireless mike and you can proceed to modify the CB unit.

Parts necessary for the modification are a single-hole-mounting phono jack (General Cement part no. 33-804), a 0.01 mf 200 WVDC capacitor (Mallory part no. PVC 211), and enough shielded wire (standard microphone cable or RG-58AU coax) to reach from the volume control terminals in the CB set to the point at which you want to place the phono jack. Also necessary will be

**COVER STORY**

an interconnection cable such as the Lab-Tronics C101 or C102 (available from Allied Radio).

Locate the place where you want the phono jack, and carefully drill a ¼-inch hole in the CB unit panel at that spot. Deburr the hole, and install the jack. Be sure the solder-lug-washer is on the inside of the CB rig.

Next, connect the center conductor of the shielded cable to the right-hand (looking from the front) terminal of the volume control. This will be the outside terminal which is *not* grounded. Connect the cable shield to the grounded terminal.

Finally, route the cable by the most convenient path to the jack. Connect the cable shield to the jack's solder-lug-washer-ground terminal. Connect one lead of the .01-mf capacitor to the center conductor of the cable, and the other capacitor lead to the center post of the phono jack. Put the CB unit back together; this completes the modification.

## USING THE UNIT

This combination of equipment will work if you merely plug all the AC cords into the wall outlets, connect the added jack on the CB rig to the "XTAL PHONO MIKE" jack of the wireless mike by means of the C101 interconnecting cable, turn the wireless mike volume all the way up and the CB unit volume all the way down, and listen on the BC radio.

However, under these conditions your range will be severely limited. Early tests in the CBH office showed, too, that an installation of this sort suffered "dead spots" at unexpected

locations (such as eight feet from the unit).

To realize the maximum benefit from this system, you should spend as much time and effort setting up the wireless mike installation as you would spend with any other transmitter. Antenna location and transmitter adjustments are both important. *Fortunately, no license is needed for either.*

The wireless mike is supplied with a 10-foot wire antenna. This is the maximum legal length, and should not be changed. If you run this wire vertically up the wall to the ceiling, then horizontally in any convenient direction, and tape the wire in place, you will find that range is adequate to cover the interior of any normal-size home or office.

The transmitter adjustments are two: both the frequency and the modulation level can be changed at will. The unit operates anywhere in the broadcast band, and you can change its frequency by a small screwdriver adjustment on the top surface. It's best to use as *low* a frequency as possible (such as 550, 600, or 650 kc) since most broad-

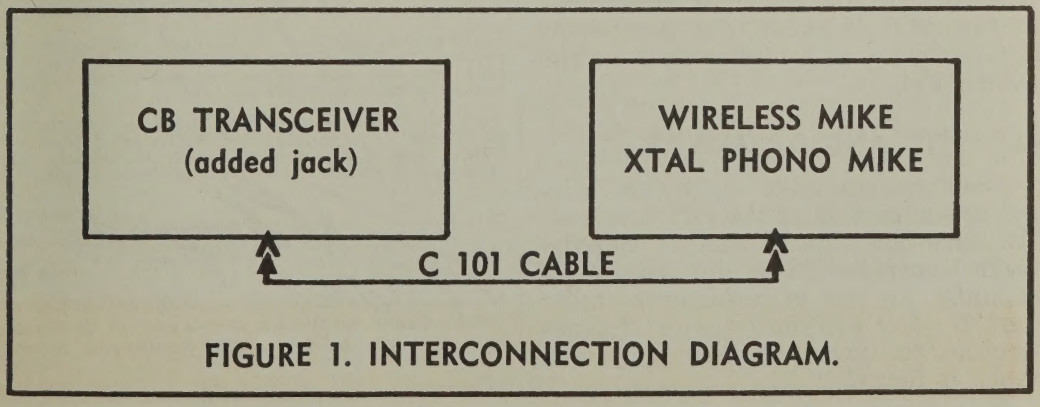


**FIGURE 1. INTERCONNECTION DIAGRAM.**

cast receivers are more sensitive at the low end of the band—but it's even more important to avoid the frequencies already inhabited by powerful local broadcast stations!

Recommended procedure for adjusting the frequency is to first tune the broadcast radio to a clear spot at the low end of the band, then without readjusting the BC set tune the wireless mike "frequency" adjustment until the signal sounds properly tuned in.

Modulation level is controlled by the "volume" knob on the front panel of the wireless mike. The CB rig's volume control will have no effect at all on the remote speakers. With the unit we used, we found that the wireless mike modulation level should be set all the way open for the best results. However, the proper level will differ from unit to unit; to adjust it, listen to a test transmission from a well-modulated CB station and adjust the "volume" control for loudest signal in the BC set, without distortion.

## DEAD SPOTS, ETC.

Transistor radios being what they are, you may find "dead spots" in your "coverage area." Usually, you will discover that these dead spots can be eliminated by simply rotating the BC receiver (these tiny sets have highly-directional antennas inside, and sometimes they completely cancel out a weak signal). If this fails, try moving three to four feet in either direction—at the limit of range, you sometimes find a "peak and null" effect in the radiated signal.

## LEGALITY AND OTHERWISE

The "wireless mike" operation is legal under part 15 of the FCC's rules—the same rule that authorizes "handie-talkie" operation. The unit we used is certified by the manufacturer under part 15; any modifications or changes to either the circuit or the antenna will make it illegal.


## STATEMENT OF OWNERSHIP

### HORIZONS PUBLICATIONS, INC.
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(A) Be it known to all men that Horizons Publications, a California corporation, was, as of September 1, 1961, granted authority by the California Corporate Commission to conduct a publishing business in and from the state of California.

(B) As of this date, March 15, 1962, Horizons' stock in trade consists of five monthly publications and one annual, as follows:

**(1) Television Horizons Magazine**
**(2) Communication Horizons Magazine**
**(3) CB Horizons Magazine**
**(4) Call-Book/Handbook Monthly**
**(5) VHF Horizons Magazine**
**and**
**(6) Citizens Band Call-Book Annual**

(C) Horizons Publications is a privately owned stock corporation. All principals owning one (1) percent or more stock in Horizons Publications are as follows:

| | |
|---|---|
| **(1) Robert Britt Cooper, Jr. Oklahoma City, Oklahoma** | **50%** |
| **(2) David Hannah Modesto, California** | **30%** |
| **(3) Theodore Weiker San Francisco, California** | **15%** |
| **(4) Thomas S. Kneitel Oklahoma City, Oklahoma** | **5%** |

(D) Those persons owning less than one (1) percent of the total outstanding stock in Horizons Publications are as follows:

**none**

(E) The officers of the Corporation, pursuant to the corporate by-laws and rules for officer election are (as of March 15, 1962):

| | |
|---|---|
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Robert B. Cooper, Jr.

I Mary Garrett, a Notary Public, in and for said county of Oklahoma and state of Oklahoma. My Commission expires

12-12-65

# CBH IS 1 YEAR OLD!

**And what a year it has been!** For example, our August 1961 issue was the first CB equipment directory to appear in print. Our September 1961 issue started CB'ers off on a regular round of **"fix-up-your-rig"** and construction articles that haven't stopped since. Our January mobile improvement issue was a newsstand sell-out. And last month's April issue sent thousands of CB'ers to the soldering iron with four one-evening construction projects.

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**36 months of CBH — only $7.**
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cast receivers are more sensitive at the low end of the band—but it's even more important to avoid the frequencies already inhabited by powerful local broadcast stations!

Recommended procedure for adjusting the frequency is to first tune the broadcast radio to a clear spot at the low end of the band, then without readjusting the BC set tune the wireless mike "frequency" adjustment until the signal sounds properly tuned in.

Modulation level is controlled by the "volume" knob on the front panel of the wireless mike. The CB rig's volume control will have no effect at all on the remote speakers. With the unit we used, we found that the wireless mike modulation level should be set all the way open for the best results. However, the proper level will differ from unit to unit; to adjust it, listen to a test transmission from a well-modulated CB station and adjust the "volume" control for loudest signal in the BC set, without distortion.

## DEAD SPOTS, ETC.

Transistor radios being what they are, you may find "dead spots" in your "coverage area." Usually, you will discover that these dead spots can be eliminated by simply rotating the BC receiver (these tiny sets have highly-directional antennas inside, and sometimes they completely cancel out a weak signal). If this fails, try moving three to four feet in either direction—at the limit of range, you sometimes find a "peak and null" effect in the radiated signal.

## LEGALITY AND OTHERWISE

The "wireless mike" operation is legal under part 15 of the FCC's rules—the same rule that authorizes "handie-talkie" operation. The unit we used is certified by the manufacturer under part 15; any modifications or changes to either the circuit or the antenna will make it illegal.


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### A California Corporation

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(B) As of this date, March 15, 1962, Horizons' stock in trade consists of five monthly publications and one annual, as follows:

**(1) Television Horizons Magazine**
**(2) Communication Horizons Magazine**
**(3) CB Horizons Magazine**
**(4) Call-Book/Handbook Monthly**
**(5) VHF Horizons Magazine**
**and**
**(6) Citizens Band Call-Book Annual**

(C) Horizons Publications is a privately owned stock corporation. All principals owning one (1) percent or more stock in Horizons Publications are as follows:

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**And,** why not order your monthly CB Call-Book subscription for 1962? Brand new from Horizons, this handy **monthly publication** lists all of the new KBA-KJB CB calls heard on the band these days. This really puts you in touch with the CB'ers you hear on the air and meet on the road. Use the handy form at bottom of card below.

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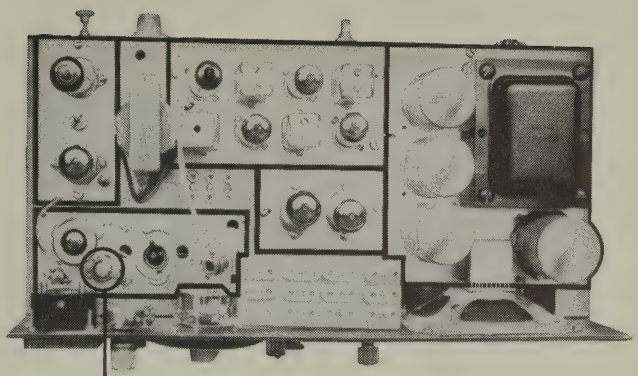
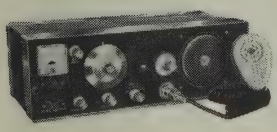


# CB SENSITIVITY?



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**$189.50**

Slightly higher west of Rockies

We employ that missile age miniature marvel . . . the "Nuvistor"! Some manufacturers utilize the Nuvistor as an RF amplifier, *we do not*. The RF amplifier in the Courier 1 is a 6EH7, high gain-low noise pentode used in conjunction with the Nuvistor as a low noise mixer. The result is the ultimate in a sensitive front end with lower power drain and more reliable performance. (Sensitivity useable to better than .1 microvolt.) Add to this the cost-saving elimination of receive crystals (the Courier 1 has 4 hand adjustable tunable trimmers), plus 23 channels tunable receive. Want more details? Check these features . . .

- 12 CHANNEL TRANSMITTING
- 23 CHANNEL TUNABLE RECEIVE
- UNITIZED HAND WIRED CHASSIS
- ELECTRONIC SWITCHING (NO RELAYS)
- BUILT-IN SQUELCH
- FULLY MODULATED
- MOBILE OR BASE (110 V OR 12 V)
- MORE THAN 3 WATT OUTPUT
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CB'S NEWEST AID

# The Phone Patch

**Donald L. Stoner, 11W1507**
**Stoner Electronics**
**Alta Loma, California**

A recent interpretation by the FCC switches on the green light for limited Citizen's Band use of the phone-patch. What is a phone-patch? This equipment permits either mobile or fixed stations to transmit and receive traffic over the commercial telephone lines with proper telephone company approval. Obviously the potential of this service is tremendous. In effect it ties your CB equipment to the vast network of millions of telephones and permits you to talk to any phone in the country even though it may be 3,000 miles away!

There is no need to dwell on the usefulness of such a device. How many times have you needed a telephone call made for you? You could have talked to the party direct. Not only is the patch a valuable addition to your station, but if every station had one, think of the tremendous service that could be performed. As you pull into a strange city, you contact a CB'er through the locally monitored channel. He calls the local motel and connects up the patch. Making a room reservation is simple, with *no need for relayed and misunderstood messages!* You can make calls from your car on the road and not have to wait until you return to your base station. By that time you may have forgotten what the call was about. In addition, you can even make long distance calls from the car simply by giving the operator your credit card number! The phone patch is valuable for use between base stations in different toll areas.

**What Is It?**

Without launching into a technical tirade, the phone patch is a unit for tying the modulator and receiver audio sections of your transceiver into the telephone lines. When you transmit, the voice on the telephone is radiated by your rig. When you receive, the station you are listening to is connected to the telephone line.

**Is It Legal?**

The FCC has interpreted the rules to indicate they have no objection to phone patches so long as they supplement the intended use of the Citizen's Band and have Phone Company approval (CB Horizons, April 1962, p. 53). As far as the telephone company is concerned, they do not permit telephone patches to be connected to their telephone lines. However, and this is important, *they invariably overlook the fact that a phone-patch is used.* They have found from past experience with radio amateurs that the installation of a patch is usually accompanied by an increase in long distance calls and accompanying additional revenue for the phone company. In addition and even more important, is the fact that a *properly designed* phone-patch *cannot be detected* as being connected to your phone lines. Only if the phone serviceman stumbles across your connection is your secret discovered. Even if this occurs, and it's a million-to-one shot, you will only be asked to remove it. There is no fine and they will not pluck out your phone! A poorly built patch, with an unbalanced or mismatched transformer can play havoc with the phone lines. Balanced circuit, high quality transformers and components are a must!

**A Patch For Your Station**

You can make a patch if you are technically inclined or you can install a commercially made unit. The cir-

# $15.00 Per Month
after a nominal down payment

# the switch is on

# 4 convenient purchase plans

## More and more CB'ers are turning to Browning equipment for utmost quality, top performance and precision engineering.

With Browning CB equipment, the proof of quality is in the performance. Browning guarantees its equipment to outperform all others or refunds your money in full. That's why you can rely on any Citizens Band radio equipment that bears the Browning name. It's your guide to the finest money can buy!

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R-2700-A BASE STATION RECEIVER — now better than ever with new antenna tuning control; improved planetary ball drive, non-slip, all channel tuning control; new silicon rectified power supply. Price: $149.00.

23/S-NINE BASE STATION TRANSMITTER — has unique all channel selector switch; standing wave indicator; PI network circuitry; TVI trap; spotting switch; D'Arsonval movement meter; silicon rectifiers; speech clipper and splatter filter; separate R.F. power amplifier tube; push-to-talk microphone. Price: $144.00 with one crystal or $189.00 with 23 matched crystals installed.

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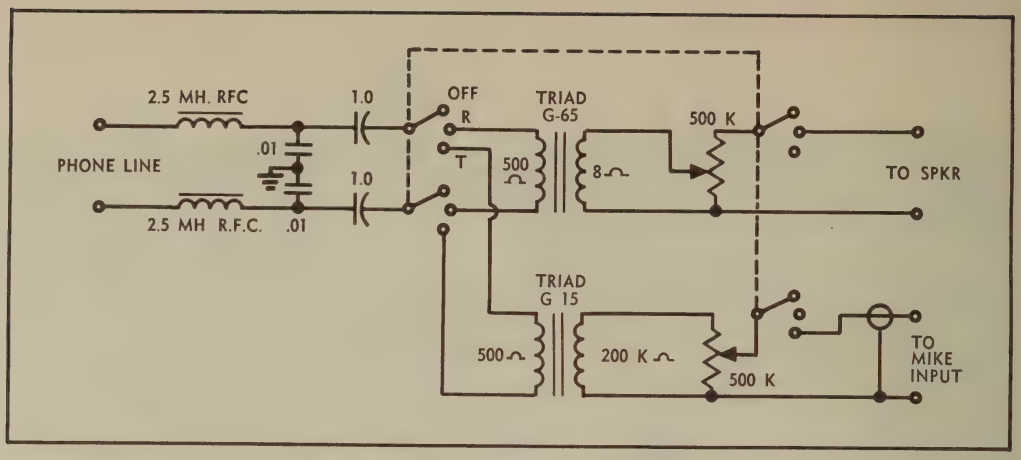



**Figure 1. Here's the schematic for the CB Phone Patch**

## PARTS LIST

2—.01 mfd disc ceramic
2—1.0 mfd paper
1—4pdt
2—2.5 mh r.f. chokes
2—500 K audio taper volume control
1—500 ohm to 8 ohm transformer (Triad G65 or equivalent)
1—500 ohm to 200K ohm transformer (Triad G-15 or equivalent)
—connectors and wire as required

cuit for a "home-brew" patch is shown in fig. 1.

The phone input line passes through two r.f. chokes which prevent any r.f. picked up on the lines from getting into the transmitter. Without this a feedback howl can occur. A balanced input circuit, including the 1.0 mfd. blocking capacitors, is used to prevent hum pickup. The blocking capacitors are used to remove the d.c. transformer resistance from the phone lines. The phone company can count the number of phones (and accessories) on a line by measuring the total resistance across the line.

The circuit uses two transformers because of the need for three windings (phone line, speaker, and transmitter). No single commercial unit could be found which had three windings of the correct impedance (600 ohms, 3.2 ohms and 200K ohms). These transformers were found in a local surplus store but *virtually* any units with the same impedance level should work.

The 4PDT switch is shown in the off position. When in the receive position (middle) the receiver output from the speaker is connected to the phone lines through the transformer and a volume control (listen level) which controls the loudness of the phone line signal. On transmit, the phone line is connected to the other transformer and is coupled to the input of the transmitter audio section.

A new type of phone-patch, designed expressly for Citizen's Band transceivers, is now available. This inexpensive unit, the Stoner Electronics "AUTO-PATCH" (model SE-104) connects the CB receiver and transmitter audio to the phone lines but switches between the two automatically. It has only one switch, for turning the unit on and off and will work on *any* CB transceiver. It requires only two connections to the rig and can be installed by anyone in five minutes.

### How To Install a Patch

Anyone who can connect a CB rig to an antenna can hook up a phone patch! Generally, you will have three, and possibly four, wires connecting to your phone. Many installations have a little terminal block mounted on the baseboard near the floor. Remove the cover of the phone, or terminal block if you have one, to reveal the tie point for the phone wires. Lift the phone off the hook to get a dial tone. Put on a pair of earphones and touch the two earphone wires to the various connections of the phone lines. On one pair you will hear the dial tone. This is the point where the two patch

(*Continued on Page* 50)

**DOES YOUR RIG HAVE 3.5 WATTS OUT?**

# *Build THE 'KYLE-O-WATT'*

**By JIM KYLE, 10W0901**
**Technical Editor**

Does your transceiver suffer from "inefficiency"?

Sure, it's rated at a full 5 watts input—virtually every rig ever built for the Class D service carries this rating—but does it deliver at least 3 watts *output?*

If the unit is more than a couple of years old, *it almost certainly fails to meet this specification.* Most earlier units produced were woefully inefficient. The manufacturers have cured this problem in most more recent designs—but a lot of those older rigs are still with us.

As an example, we can cite one unit (which for obvious reasons must remain nameless) which, when first introduced shortly after 11-meter operation was authorized, proudly proclaimed "full legal input." It took that five watts—and put a half-watt into the antenna.

That unit is no longer in production. Today, the manufacturer agrees that output of the unit could never have been greater than one watt—and that only at frequencies far lower than 27 megacycles. Current production from that manufacturer features better-than-three-watt output, incidentally.

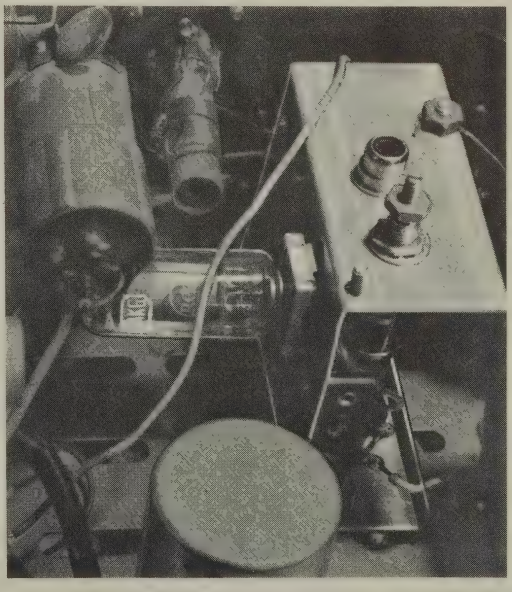
The only accurate way to tell if your rig is performing properly in the power department is to have its output measured with an accurate RF wattmeter. This requires the services of an adequately equipped shop—but is still a good idea.

You can get a rough estimate of the rig's performance by using a No. 47 pilot lamp as a dummy load. Just wire up the bulb to a plug which fits the antenna connector, plug it in, and key the rig. The bulb will light, either dimly or brightly.

To light a No. 47 bulb to normal brilliance requires slightly more than 1½ watts. Thus, by comparing the bulb connected to the transmitter output to another No. 47 bulb connected to a 6.3-volt source, you can get a rough idea of how much RF your transmitter is putting out.

If the glow in the bulb is barely perceptible, you're probably getting in the neighborhood of ½ watt. On the other hand, if the bulb burns a brilliant blue-white, much brighter than normal, you're probably getting at least 3 watts. Since 3½ watts is just about the most output you can get from a legally operating transmitter, you would be safe in estimating output in this case at 3.

One caution—the power delivered by any transmitter depends somewhat on the "resistance" of the load connected to it. Your antenna is a 50-ohm load—but the light bulb is only about



**6AK6 Booster Installed**

30 ohms. This means that you can't measure the power with any degree of accuracy, but you can tell whether it's big or small.

At this point, you have a glimmering of an idea of whether your unit is efficient or not—but if it's not up to par in this area, what can you do about it?

That's the real point of this article—a power-booster for these under-efficient rigs can be quickly constructed for a cost somewhat less than $10, and

Possibly the most important is to be extremely careful that the parts layout shown here is followed exactly; any changes can mean much trouble with "parasitic oscillations" which are not only annoying but illegal. As shown, the booster is free of parasitics.

Don't substitute other tube types for the 6AK6; doing so reduces output and leads to other troubles.

Adjustment of the unit also requires extra care, but we'll cover that when we get to it. First, you have to build it.

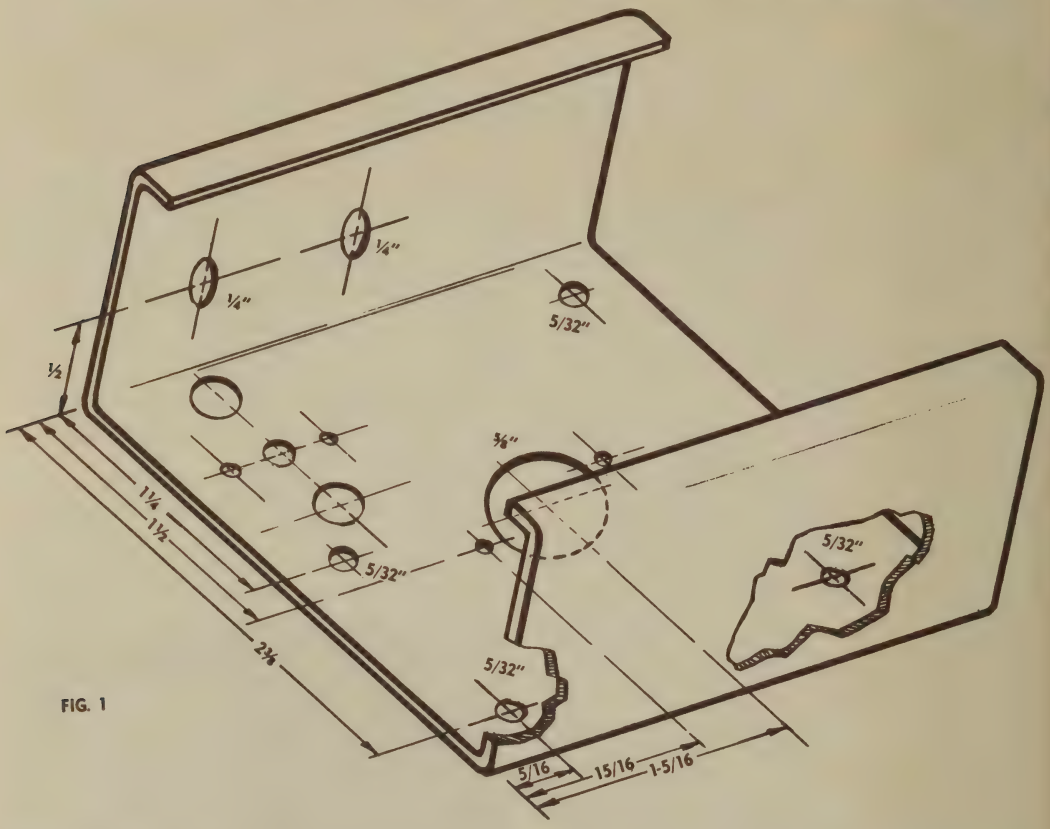


FIG. 1

will bring performance up to 1962 standards.

The booster itself consists of an RF power amplifier, using a type 6AK6 tube, which *in function* replaces the existing output stage within the rig. The existing final stage is used as a driver for the added amplifier, ensuring that plenty of RF is available for the antenna.

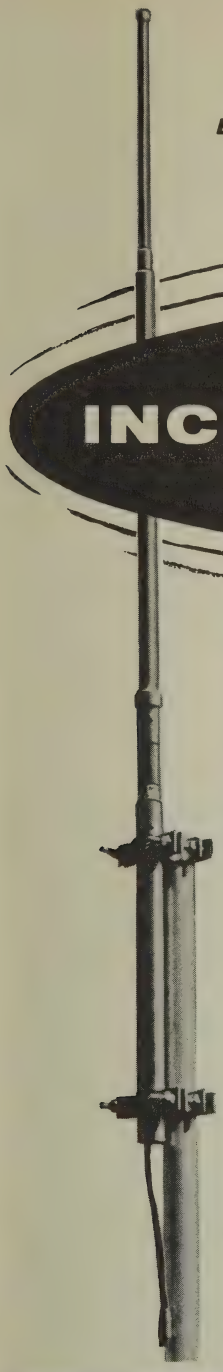
Construction of a unit such as this is simple, but several points must be closely watched if you want to avoid subsequent troubles.

Gather the required parts before you begin. The chassis can either be purchased (it's 1 inch high by 2½ inches wide by 3 inches long, with the fold-downs on the 2½-inch side) or bent to shape from scrap copper. It's really better to bend it from copper, since store-bought chassis are usually made of aluminum and it's next to impossible to solder to aluminum.

Now, cut and drill the holes for the parts as shown in fig. 1. The exact locations of the five holes at upper left in the illustration will depend on

# MARK *Static Sheath**

***Eliminates Noisy Precipitation Static*...Improves Signal-to-Noise Ratio***
***Affords up to 20 db Operating Gain . . . Increases Receiver Sensitivity***
***Extends Intelligible Coverage. Easiest to install.***



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***with exclusive Static Sheath****

Design advantages of the new **MARK II** now make it possible to step up the efficiency of your CB operation, and maintain clearer communication over greater distances. 19 feet overall, the omni-directional **MARK II** makes fullest use of the 20-foot legal length limit. Requires no radials or skirts. Provides 1 db gain over ground plane antennas. Employs a full half-wave radiator voltage fed through a special launcher-matcher cable section for excellent impedance match over the entire citizens band. Low angle radiation insures utmost efficiency and maximum contact with mobile units.

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***Precipitation Static** is caused by charged particles in the air impinging in a continuous stream on metal antenna radiator surfaces. It is revealed by a continuous hissing background noise. The patented **Mark Static Sheath*** is a tough, durable, dielectric plastic covering that acts as an electrical insulator and eliminates static interference caused by the precipitation effect.

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Shortened mechanical structure and other Mark features bring new efficiency, new compactness, new convenience to CB communication. Molded Fiberglas, with Static Sheath.* Designed to replace lengthy stainless steel whips. Far superior to whip and loading-coil combinations. Can be located on upper portion of vehicle such as trunk lid, cowl, fender or hood to obtain proper ground plane. Single-hole mounting. 18″, 3′, 4′ and 6′ mobile models. **Heliwhip** Marine Antenna (6′ long) eliminates need for metal ground plane.

***See Your B & K Distributor or Write for Catalog HW19-CB***

*U.S. Pat. 2,966,679
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Chicago 13, Illinois

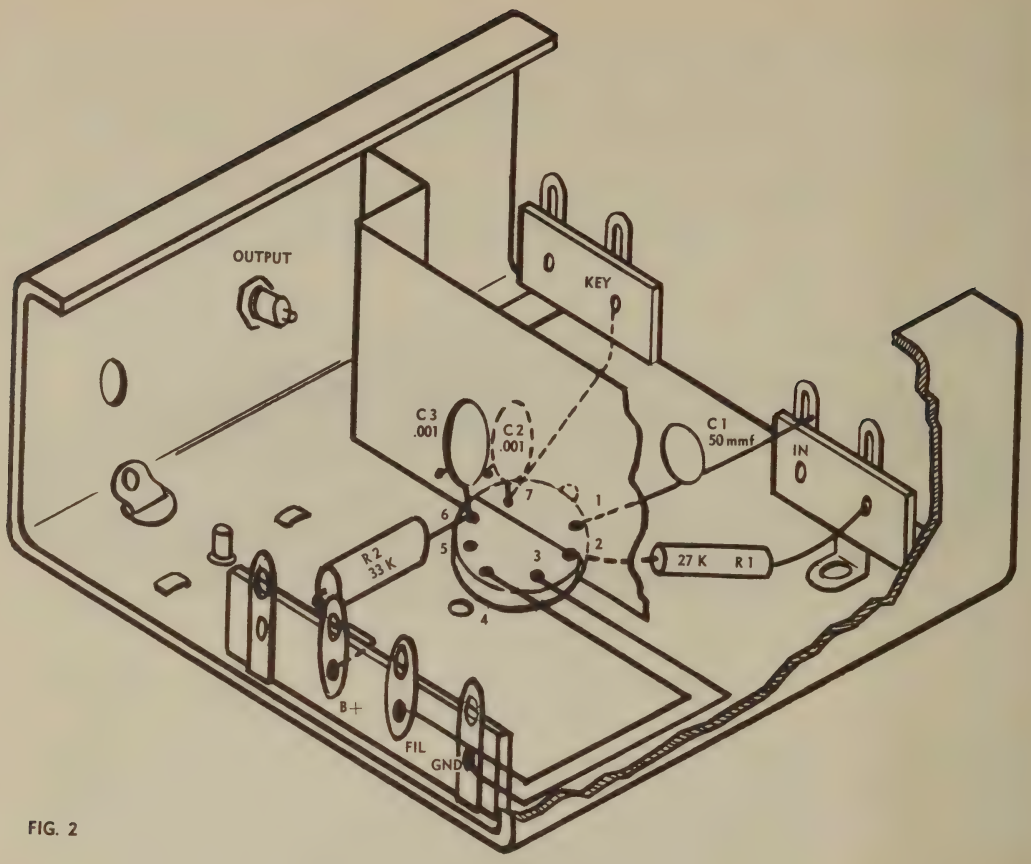



FIG. 2

the 3-30 mmf capacitor you get; measure from the capacitor to locate the holes. Similarly, the placement of the two 5/32-inch holes at bottom center depends on the 3-point tie strip (the size shown in the figure is almost standard, but check your tie strip to make sure).

After all the holes are drilled and deburred, mount the tube socket. Be sure the pins are oriented as shown in fig. 2. Before making any connections, shape the shield plate from brass "shim stock" as indicated in fig. 2 and solder it in place. The shield connects to pin 2 of the socket, but must miss both pin 6 and pin 7. It may connect to the center post if one is present on your socket, but this is not necessary.

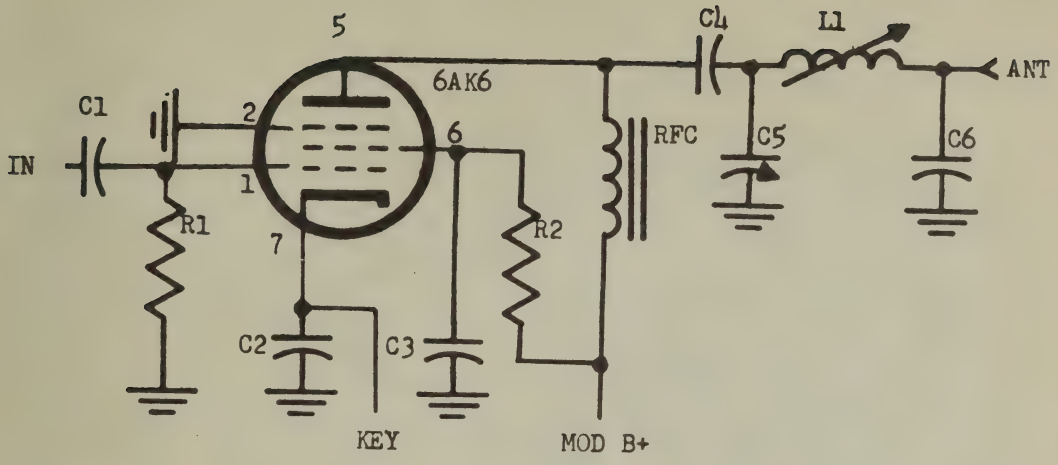
With the shield plate firmly in place, install the 3 tie strips and connect R1, R2, C1, C2, and C3 as shown in fig. 2. Note that one lead each of C2 and C3 is soldered to the shield plate, one on each side of the shield.

Now place C5 in place and solder one terminal to the chassis as indicated. Also connect leads from pins 3 and 4 of the socket to the "fil" and "gnd" points on the 3-terminal tie point as shown, and a lead from pin 7 to the "key" terminal.

Next, install the "output" terminal and L1 as shown in fig. 3. Connect C6 from the "output" terminal to ground on the shield plate as shown, and extend the lead from the output terminal to the nearer terminal of L1. At the other terminal of L1, connect C4 as shown—using the excess lead to make the connection to the free end of C5. Be careful not to short this connection to the chassis when soldering.

Finally, connect the RFC from pin 5 of the tube socket to the B+ terminal of the tie strip as shown, and the booster itself is completed.

To connect the booster to your transceiver, locate the RF power output tube or stage in your unit. Connect a




**Power Booster Schematic**

lead from the "in" terminal of the booster to the plate of the existing output stage. Disconnect the existing connection from the RF output circuit to the T-R switch or relay, and connect the "output" terminal of the booster to the switch or relay in its place.

Disconnect the existing connection between the modulation transformer and the RF output stage (usually a brown lead but sometimes red). Connect the "B+" terminal of the booster to the modulation transformer in its place, and connect the old RF output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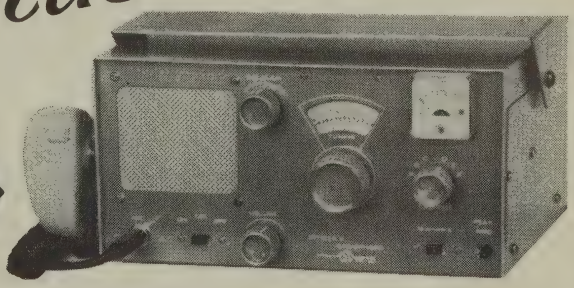

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PRESENTING — The TR-70 CITIZEN'S BAND MOBILE RADIOPHONE. At last — a mobile that will *really* get out. Copy your stations from locations you never thought possible. Extended range and fewer "dead spots" are now yours with the hottest mobile on the market.

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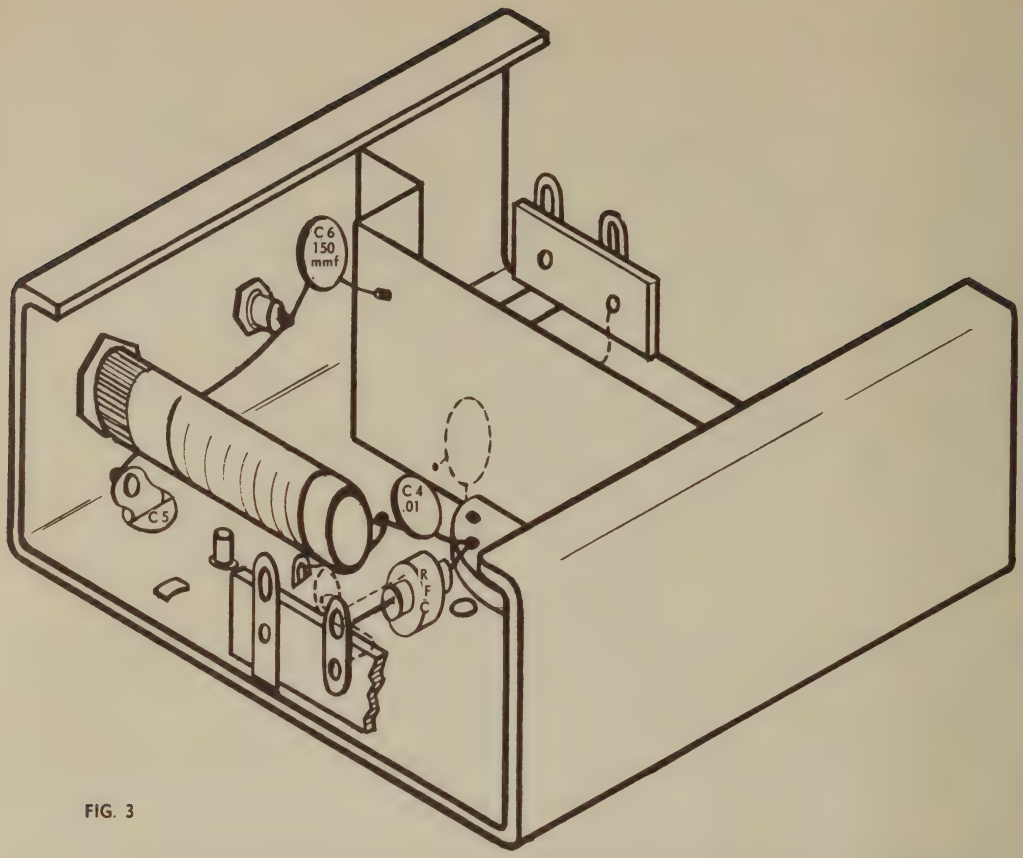


FIG. 3

stage lead left disconnected here to any convenient source of high voltage (such as the screen of the modulator tube). Connect the "key" terminal of the booster to the cathode of the old RF output stage, and hook the "fil" terminal to the ungrounded side of the 6-volt filament line (if your set uses 12-volt filament wiring, connect a 39-ohm, 2-watt resistor in series with the "fil" terminal). This completes the connections.

Before on-the-air use, though, the booster must be adjusted for proper operation. You can make these adjustments, provided that you use a dummy load and not an antenna. *None* of the adjustments can affect the frequency of operation, so *no* license is necessary.

The adjustment procedure, primarily, consists of tuning L1 and C5 for maximum output. A secondary adjustment is the tuning of the old RF output circuit for best modulation.

As mentioned earlier, a dummy load is a necessity. While the No. 47 pilot bulb will do, it will not result in best on-the-air performance. A commercial 50-ohm dummy load with indicating meter (such as that in the *Cesco Transicheck*) is recommended.

To make the adjustments, first turn C5's adjustment screw all the way in, then back off approximately 1 turn. Now switch to "TALK" and adjust the slug of L1 for maximum indicated output. If less than 3 watts is indicated, tighten C5 ¼ turn and readjust L1. Continue until maximum output is obtained—but if you get more than 4 watts output, *you have adjusted for illegal power output.* To remedy this, loosen C5 slightly and readjust L1.

Now, whistle into the microphone (never do this on the air) and see if the indicated output power rises. If it does, you're in business. Put a drop of *Duco* or *Glyptal* cement on all adjustments. If not, adjust the old RF output circuit for maximum output on the meter. Then try whistling

again. This adjustment is something of a compromise, in many cases, but a bit of trimmer-twiddling usually obtains the desired increase in power with a whistle.

Before buttoning everything up, it's a good idea to check the power input to the booster to make sure you're legal. Measure the voltage at the B+ terminal, and measure the current at this point also (you'll have to temporarily disconnect the wire here to insert a 0-50 milliammeter). Multiply the voltage by the current in milliamps; if the product is not larger than 5000 you're safe. If it is, you're running too much power and you must readjust L1 and C5 as described earlier until the product drops below 5000. To guide you in this, if your plate voltage is 200 the largest permissible current is 25 ma; if voltage is 250, the limit is 20 ma; if voltage is 300, the limit is 16-2/3 ma (read 16); if voltage is 350, the limit is 14 ma.

While present regulations permit adjustment of RF output stages without any license, provided the oscillator circuit is sealed, we actually recommend that the final adjustments be rechecked by a licensed technician to prevent any possibility of trouble. To keep from taking any chances of paying a high service charge, we recommend that you adjust the booster as described here, then button everything up and take your rig in for an ordinary frequency-and-power check. If something is wrong, this will show it up—and if all is well, you'll only be out the nominal service fee (and such a check should be made periodically on any unit anyhow).

**NCRL TO MEET IN HUNTINGTON**

The National Citizens Radio League will hold a rally in Huntington, West Virginia April 28 at the Huntington East High School Auditorium. The meeting will be highlighted by the presentation of "Merit Awards" to CB'ers in the 19th-KHG call area who have performed meritorius service on behalf of Class D citizens radio. Chuck Greene, 18A6256, NCRL president, will host the rally, make the award presentations and speak on the purpose of the NCRL. The meeting is scheduled for the evening hours April 28, and a display of brand new CB equipment will be on hand from many of the manufacturers. A crowd of 2,000 is expected.


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*Rum Runners Use CB Radio*

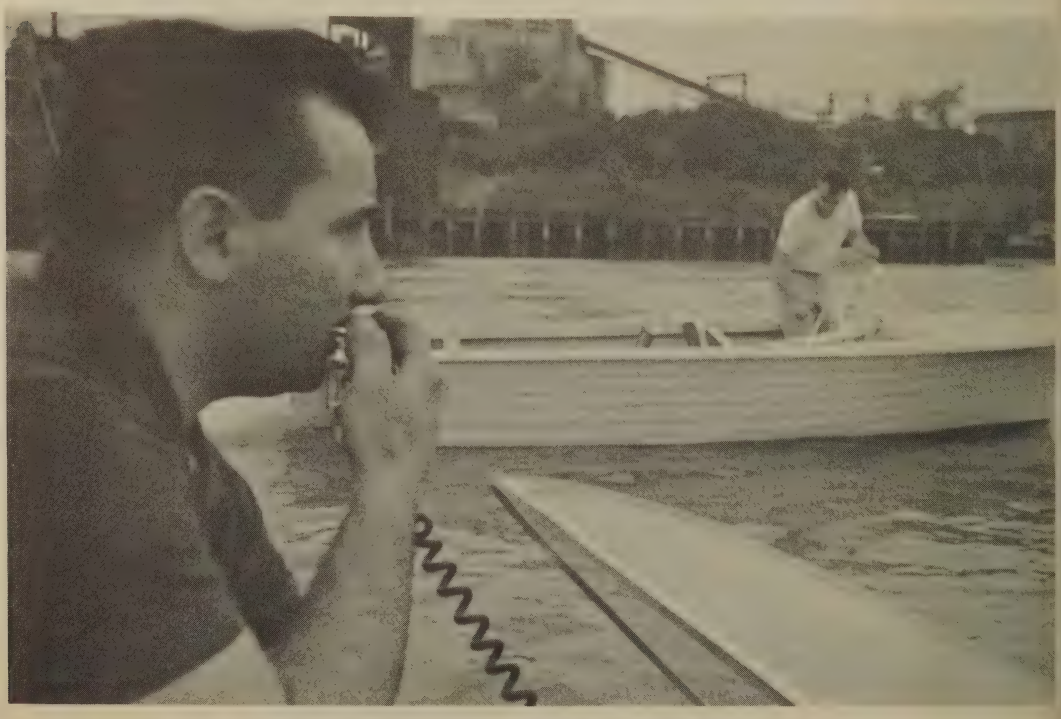
# S. O. S.

**By ED ROGERS**

Don't do a double take if you catch sight of a highpower speedboat loaded to the gun'ls with suspicious looking cargo. It's not a bootlegger trying to run the Coast Guard picket with hot hooch—but a new and novel application of CB radio. The idea is the brainchild of Emil Benvenuto, 1W3438, owner of two liquor stores and a 4-prong communications network designed to keep customers happy on land and sea.

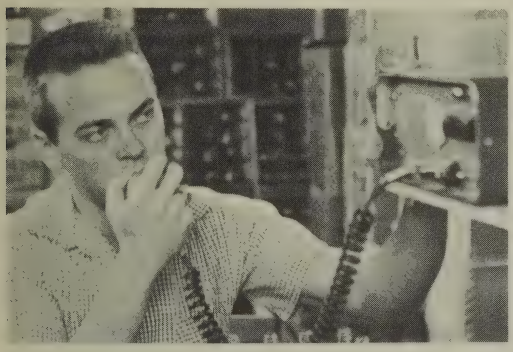
Bennie began operations in normal enough fashion. After opening up the second store, he worked out an effective system for saving the price of a new delivery truck. The two stores are a mere six miles apart and could easily be linked by CB radio. So, why not dispatch a single CB-equipped truck from either store? The system not only worked well, but netted a couple of unforeseen advantages. For example, if one store ran out of a brand, the truck could be notified en route to pick up stock from the other location. Or, when the truck has already started out with a delivery and the other store receives an order for the same area, it's a simple matter to re-route and deliver both packages in a single trip. Not an ingenious use of 2-way radio, but proof again of CB's superb value in business. Came summertime, Bennie discovered a new way to capitalize on CB radio.

The area in which the stores are located is the south shore of Connecticut bordering on Long Island Sound. As in other sections of the country, the



**Hot Load of Hootch — Delivered Via CB Radio!**

region has experienced a phenomenal spurt in boating activity. Bennie soon perceived the link between his system and the rising number of marine CB units aboard pleasure craft. Thus, the fourth unit of his network sprang into existence; a racy 16-foot runabout powered by a 50 horsepower outboard. Key piece of equipment in outfitting the boat was a Polytronics rig neatly mounted on the forward bulkhead. With all four units tooled up for channel 7, the *Liquor Mart* was ready for trafficking in the coastal trade.



**Message from boat is picked up by store.**

It wasn't long before the orders poured in — and merchandise poured out. A call from a boat triggered off a fast sequence of events. The store picked up the message, loaded the truck and dispatched it to the runabout. In minutes the luscious liquid was speeding toward the appointed rendezvous. Through this imaginative use of CB radio, seaborne customers were never more than a quarter-hour from their favorite brew.

If you happen to cruise near the waterfront and hear an "S.O.S." it might not mean ship in distress—but simply *"Send Over Schlitz!"*

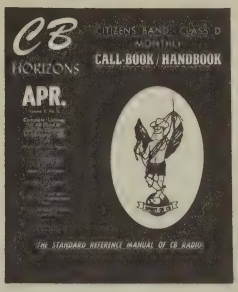
**DON'T MISS THIS ONE . . . MCEU JAMBOREE!**
Mobile Civil Emergency Units, the MCEU nationwide organization of CB operators banded together to provide emergency communications during times of local, regional or national disasters, is holding its 1962 Jamboree on June 3 (it will last three days!) through 5. MCEU affiliated units are springing up all over the nation with fine local and national backing. The MCEU boasts some 1800 members to date and has a fine record of unselfish public service. Your club or group would do well to send a representative to the Jamboree to learn from the MCEU organizers what your club can do to beef up its public service activities. Drop a note to Tom Wallace, MCEC, 1203 Butternut Street, Syracuse, New York for full Jamboree and MCEU information. The Jamboree will be a dilly!


*Have You Seen*

**The New Monthly**

**CALL-BOOK / HANDBOOK**

**From Horizons?**




***The brand new April issue is now on newsstands across the country. Only two issues old, the CALL-BOOK/HANDBOOK Monthly is the "talk of the band."***

***The April issue contains the complete listing of all new CB'ers licensed in February (nearly 5,400 in all!), and these exclusive Handbook features:***

★ **Interview on Illegal CB Practices**
CB Call-Book/Handbook corners FCC Chief Ivan Loucks on Part 19 Problems

★ **Understanding CB S-Meters**

★ **CB and the 2nd Class Radiotelephone License**
Anxious to repair your rig, or others? This story tells you how to obtain the proper FCC license to enable you to work on two-way radio equipment.

**Horizons has SLASHED the newsstand and subscription price of the brand new CALL-BOOK / HANDBOOK Monthly! Originally offered at $6.00 per year or $1.00 per copy. Now—ONLY $4 PER YEAR OR 50 CENTS PER COPY!**

**This issue of CBH contains a special subscription form on insert page 12.**

**SIGN UP TODAY!**

# NCRL MEET 'A DILLY'

It was cold, windy and even a little stormy, but the weather outside the Morrison Hotel, Chicago, failed to dampen the spirits of the group meeting inside over the weekend March 9-11, 1962.

The event was the first National CB Convention. The crowd was made up of an enthusiastic group of manufacturers and an overwhelming onslaught of CB'ers. The crowd was fair sized . . . NCRL figures quote 4400 people passing through the doors . . . and it represented a wide area, California to New York, Florida to Minnesota.

Aside from the many attractive booth displays and the excellent equipment shown, the highlight of the meeting turned out to be the visit from Mr. Ivan Loucks, Chief of the Land Transportation Radio Services Division of the FCC.

CB'er Loucks (KCF0001) stood his ground as the Government's policy maker and enforcer for Class D radio by making very clear a number of points we have all wondered about in recent months.

**FCC Land Transportation Chief Ivan Loucks chuckled when asked about building a 100 foot chimney to support a CB antenna. His stock reply was "I'll have to give you a left handed answer on that one." Asked about using trees as antenna mounts, he just smiled.**

On Q-Birds, Turkey Calls and what have you, Chief Loucks said "Q-Birds are in definite violation of Part 19." Loucks further stated "we have told manufacturers that they are illegal, and if you use one, you (the CB'er) are illegally operating."

Loucks pointed out that tone signaling devices, as such, are not illegal, *provided* the tone (or combination of tones, as with the Q-Bird) is used to *electronically* actuate a receiver circuit. In other words, if the tone signal you are transmitting turns a receiver from squelch position to "on", you are OK. If the Q-Bird is used for nothing more than attracting attention "by ear", you are in violation of Part 19 provisions, and you and your Q-Bird may get your collective tail feathers plucked—but good!

CB Horizons is just as much at fault in this manner as anyone, as we have run construction articles on the Q-Bird units in past issues. Let the matter be resolved here, once and for all.

Loucks also stated "CB'ers may look for changes in Part 19. Nothing is frozen in the operation of the service."

A full report on Mr. Loucks talk and a closed press conference held after the open session can be found in the April issue of the CB Call-Book Supplement, which went on sale March 25 around the country.

The NCRL Convention came a little early in the year for manufacturers to break new equipment models. Traditionally, most manufacturers show off their new gear at the *May Parts Show*, which is also held in Chicago. Several manufacturers did tell us (under a veil of sworn secrecy) about their new equipment, and believe us, the next 60 days will see some fantastic im-

provements and additions to CB radio lines.

Hammarlund showed off their new OCT-X 8 channel push-button CB selector, which was announced in the April CBH. This unit, which sells for $15.95 less crystals, adapts your existing CB set to 8 transmit channels in a "flash" and does away with rotary switches.

Globe, E. F. Johnson, Elenco, LaSalle, and Sonar all mentioned some fascinating new additions to their lines. LaSalle in particular talked about a new deluxe rig addition, utilizing Nuvistor's in the RF amplifier and mixer stages.

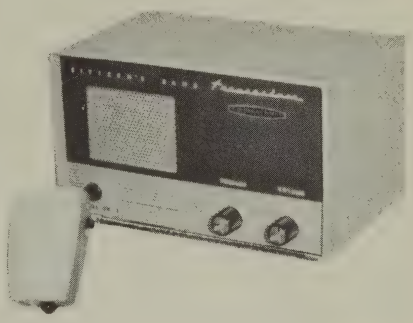
Polycom had their SR-23 rig (23 channels) on display and it really attracted the attention of the engineers and CB'ers. Ron Levine of Polycom explained that although the rig is 23 channels, it uses only 12 channels in a gadget called a *crystal synthesizer*. This

**Polycom's new 23 channel deluxe rig, shown for the first time at the show.**

unit uses a set of specially ground crystals which add and subtract in various combinations to result in "on-channel signal" for any of the 23 CB channels. The new SR-23 is a real deluxe rig, for in addition to the 23 channels, it has two nuvistors in the front end and mixer, an S meter for receive—RF meter for transmit combination, and tone controlled squelch unit. Approximate price is $349.50, and delivery is scheduled for around April 30 *to dealers*.

ECI was on hand with a new Courier Linear for general use for 25-54 megacycles. With a single 6146 in the final, its 60 watt input (maximum) is *strictly illegal* for CB, but may find applications in the Business Radio Service at a later date if ECI gets type acceptance for it. Price will be around $109.00.

Heath (kit) Company of Benton Harbor, Michigan surprised us with a new single channel unit that appears to be destined for the same type of popularity as the tried and true "Benton



**Heath's new low cost single channel transceiver.**

Harbor Lunchbox." It has squelch and a noise limiter, push to talk, and a superhet receiver (*not* superregen!). Price? A very low $39.95, which makes it ideal for any low cost application.

Turner has a new model 355 Mobile Mike coming out. No details, you will have to wait and see what the folks from Cedar Rapids have up their sleeve!

James Knights Crystals, Sandwich, Illinois let it be known they are in CB crystal making and accessories in a big way. Jack Craven from JK said the company is expanding its facilities, running extra shifts and still looking for additional dealers for the crystal line and their new 23 channel switch.

Raffles (drop a card into a box and become eligible for a fine prize) were introduced to the meeting with Browning giving away a gold plated (snazzy!) 23/S-Nine Transmitter and R-2700-A Receiver, Sonar—a Model E transceiver, Raytheon—a Ray-Tel and SMEA—a Pow-R-Mike. These were all given away at the respective manufacturer's booths, and were in addition to

(*Continued on Page* 52)

# *Developed in the field*

## *to pay off in performance down the road*

# *NEW*

# CB-3A *littlefone*®

dual conversion,
8-channel citizens band

## TRANSMITTER/RECEIVER

$159.95 (S-meter optional extra)

**During a recent seven-month period, the Hallicrafters Company conducted a most unusual field test of its CB-3 citizens band transmitter. Through every conceivable condition of terrain, and weather, with almost completely continuous operation, the CB-3 was punished unmercifully and methodically . . . evaluated from every angle with the engineer's fine needle. Our purpose was not to prove something but to learn something. And in learning, to IMprove. Result: the new CB-3A "Littlefone"—solid and versatile expression of Hallicrafters' dedication to "THE NEW IDEAS IN COMMUNICATIONS."**

### EXTREME CONDITIONS WERE THE RULE

Early in July, 1961, test vehicles equipped with CB-3's were dispatched from Chicago northward into Wisconsin and Minnesota. A limited geographic area was picked, with no pre-planned route. Each short range destination was a "target of opportunity"—chosen to take advantage of the *worst possible conditions* as they occurred.

On D-day the temperature was 95°, and it ranged down to —20° before the test was completed. Identical and controlled transmission tests were conducted in both hilly and flat terrain, in cities and woodlands.

The CB-3 was operated on a continuous basis for periods ranging from four to twelve hours. More than 30,000 miles of mobile operation in the test vehicle were logged, plus unrecorded periods in trucks, boats—even an airplane.

### TESTS WERE VARIED AND THOROUGH

All tests were conducted on both an objective and competitive basis. At various times, standard equipment of the five most popular transceivers were employed in the same or directly comparable situations. Relative range, modulation, channel interference and heterodyne were measured.

Base units also were interchanged, and four different basic antenna systems rotated both in base and mobile installations. In all, more than 150 antenna installation modifications were made.

### WHAT WE FOUND OUT

**Range and speech quality** were exceptional. The CB-3 under "normal" conditions (average of hilly and flat terrain, moderate weather conditions) produced 10-2 copy at 20 miles . . . up to 40 miles in the lake region of Wisconsin . . . as low as 8 miles in the lead and zinc mining regions southwest.

Average performance over the entire seven-month period was a *minimum of 7%* and a *maximum of 12% greater range* of intelligible speech than the five other units tested.

In the major metropolitan areas visited, some adjacent-channel interference was experienced on all units during peak traffic periods.

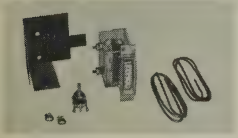
**Reliability:** in over 1,600 hours of operation, not a single major failure was experienced. Total parts replacement—two panel bulbs, one vibrator, two tubes. No visible deterioration of automotive electrical system. A microphone cord was broken due to carelessness.

**Antennas:** Major deterrent to good communications was observed to be faulty antenna installation throughout the test areas. Of more than 90 existing base stations co-operating in the tests, most were using improper or unmatched antennas. Range was increased (all brands) from *a minimum of 50% to 70%* with corrective measures.

**General observations:** Mechanical design and exclusive drop-down chassis construction of the CB-3 permitted far easier access for crystal changing and removal of unit for base use.

External S-meter was required during tests; observers with technical background felt a need for S-meter provision in the CB-3.

Eight-channel flexibility and crystal controlled operation on both transmit and receive functions were distinctly superior to competitive systems, particularly in mobile and heavily populated areas.



**Hallicrafters S-meter kit,**
optional at $8.95
*Easy to install in place of removable panel.*

**Result—the new CB-3A with field-tested improvements!**

- 8-channel, crystal-controlled convenience
- Maximum adjacent-channel rejection without loss of sensitivity through new type dual conversion.
- Removable panels for S-meter, future accessories.
- Built-in accessory jack (external speaker, etc.)
- FCC Type-Accepted.

**Transmitter:** 100% modulation on positive peaks; output amp. adjustable for maximum legal input; matches 50 ohm antenna systems; series-tuned 2nd harmonic trap for excellent TV suppression.

**Receiver:** Dual conversion—adjacent channel rejection 40 db. minimum; sensitivity less than 1 microvolt for 10 db. signal to noise ratio; 6 kc. selectivity; electronic squelch operates on less than 6 db. change; audio output over 2 watts.

the new ideas
in communications
are born at . . .

**hallicrafters**

5th and Kostner Aves., Chicago 24, Illinois

*CB'er Henry Gavit Asked CBH . . .*

# "Where Does My Signal Go?"

**Reader mail is carefully read and analyzed by the editorial staff at CBH. Quite often we file letters away as possible subjects for articles. This article is the direct result of a number of such letters written to CBH.**

Shortwave radio signals are very much like beams of light. Once they leave the radiating source (the antenna) they travel in essentially a straight line until they are blocked by hills, tall buildings, or the curvature of the earth itself (see figure 1). The

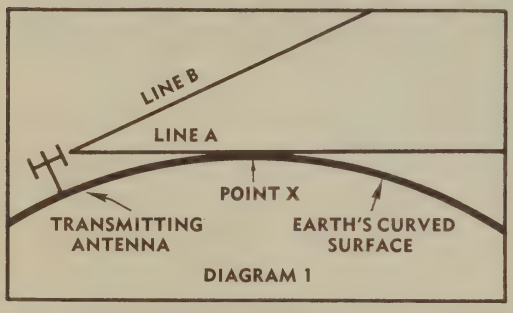


DIAGRAM 1

most efficient type of antenna places your signal on a line (line A, diagram 1) parallel with the earth, but just slightly above it. In this way the signal travels a maximum distance from the antenna before it reaches the horizon, or radiates away from the earth's surface into space (see line B, diagram 1). Most CB antennas, with the exception of beam antennas, radiate our signals in all directions. In other words, they are omni-directional. Thus, signals leave the antenna traveling east, west, north, south, and towards all radiant points between these four compass points. Aside from radiating in all 360 degrees, the signals may radiate away from the antenna either close to the earth (line A again in diagram 1) or high above the earth (line B in diagram 1). The signals leaving in line B, or higher, are really wasted power unless we are attempting to communicate with airplanes overhead! Therefore we all try to keep our signals close to the earth, for the greatest possible distance, for this gives us the greatest range or coverage.

But what about those signals that radiate away at line B or higher? And what about the signals at line A when they reach point X in diagram 1? Do they just wander off into space, never to return? Or, do they mysteriously return to earth at some distant point?

The answer is twofold. Some signals do mysteriously return to earth at a distant point. These are *skip* signals, and we will talk about them shortly.

Most of the signal that eventually goes off into the atmosphere (line A after point X, line B and all other lines— not shown) speeds through the upper air (stratosphere), through a layer of rarified gases (the ionosphere) and finally into space itself. Traveling at the speed of light (186,000 miles per second) your CB signal speeds on and on and on! Of course it gets a little weaker every second it travels, because it is "spreading out" covering a larger and larger area with every forward mile it moves (see diagram 2). Of course all of this is happening far out in space, where your channel 11 (or whatever) signal is colliding with thousands of other signals on the same frequency which CB'ers just like you were transmitting when you were transmitting. Needless to say, it would take a mighty directive antenna and a fine tuning receiver to separate your signal from the monumental pile-up far out in space! On top of that, the receiver would have to be much more sensitive than anything known today because of the weakening effect the travel and distance has on the signal. And let's not forget that in all of the other countries of the world, other

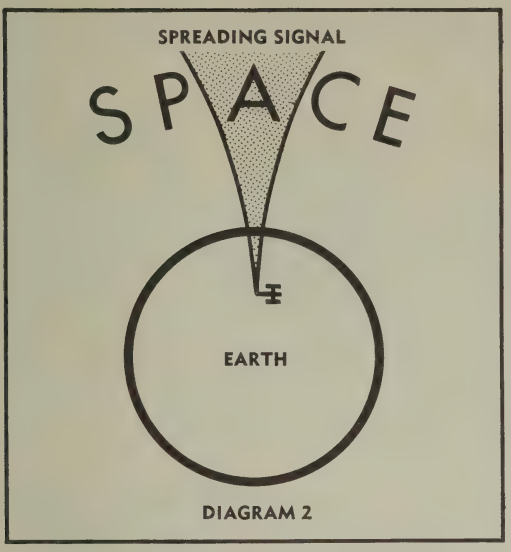


DIAGRAM 2

types of radio services are using our 11 meter band, many with much higher powered transmitters and larger, more effective antennas.

In short, an outer space CB'er would probably have more trouble making contact with *anyone*, than you or I would from the center of Death Valley or the bottom of a Rocky Mountain ravine!

So much for the signals that leave our transmitter and zoom off into space.

Your CB transmitter probably puts out around 3 watts. Some put out a little more, most a little less. Of these three watts, an average installation will get approximately 2 watts out of the antenna. If you are using a vertical whip, ground plane, dipole or some other form of "no-gain" antenna, then your two watts end up just as two watts. In other words, the antenna does nothing more than spray your signal around. It does not amplify it.

However, if you have a beam, or some other type of "gain antenna", you may be effectively raising your *radiated power* from 15 to 50 watts, in an average beam type installation.

Let's assume, in diagram three, that you have such a beam antenna. Let's assume that your "effective radiated signal" (ie. the power your transmitter feeds into the antenna—probably two watts—and the gain of your antenna


# NO HOLES IN YOUR CAR TOP

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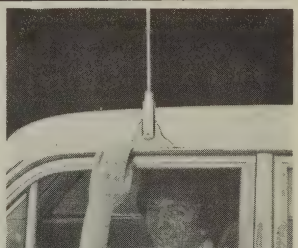

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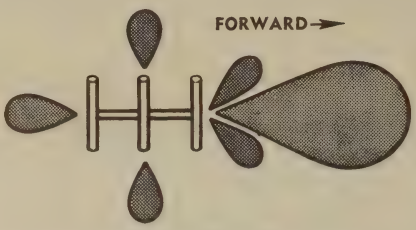



3 ELEMENT BEAM—SHADED AREAS SHOW APPROXIMATE POWER RADIATED IN DIFFERENT DIRECTIONS AS PROPORTION OF ENTIRE POWER.

DIAGRAM 3

*multiplied* together) is 25 watts. With a normal type vertical beam of three elements, your 25 watts would be split up as is shown in figure 3. The majority of the power is going to radiate away from the front of the beam, but some power is going to escape to the sides and some more is going to pop out at the back. So not all 25 watts "effective radiated power" (abbreviated E.R.P.) is going to go towards the station you are pointing the beam at.

Fortunately for you, the assumption we made in paragraph two of this report (ie. *radio waves are like beams of light for they travel in essentially a straight line*), is not completely true. For example, a beam of light will travel only as far as the optical horizon, or the point the eye can see from the level of the light beam. A radio wave however will bend *over* the horizon for 1/3 *the distance* it has traveled up to the point where it reached the horizon. This is shown in diagram 3A as a shad-

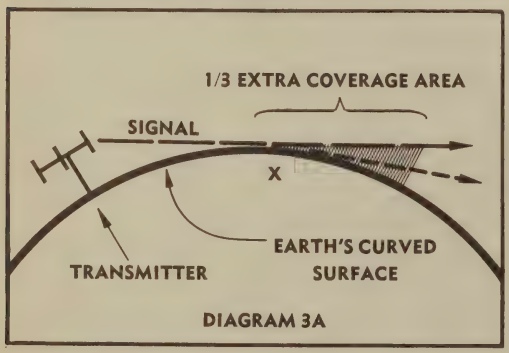



DIAGRAM 3A

ed area beyond the line of sight horizon point. The signal that bends this extra 1/3 distance will be weaker than the signal intercepted at any point between the horizon and the transmitting antenna, but it will still be strong enough to be readable and usable.

Also, fortunately for you, radio waves, unlike light rays, will bounce or reflect from objects, as shown in diagram 4. Here a radio signal bounces from a tall mountain peak or hill *back* towards the transmitter, but down into a valley which is sheltered from the direct line of sight from the transmitting antenna. Tall buildings, and sometimes even air masses caused by slow moving weather fronts, will bounce radio waves around and land your flea pow-

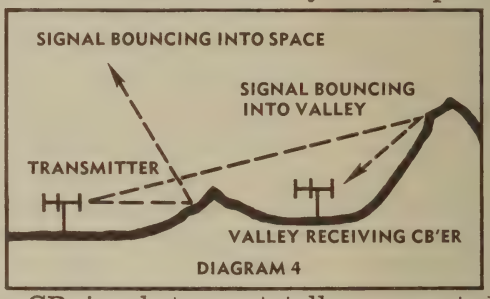



DIAGRAM 4

er CB signal at some totally unexpected spot.

CB'ers living in mountainous terrain frequently find spots which seem anything but likely for communication, but which do in fact yield very good copy signals from a station or stations "beyond" the hills or mountains.

While we are about it, we should mention that not all mountains, hills or tall buildings are detrimental to radio waves. Take a close look at diagram 5.

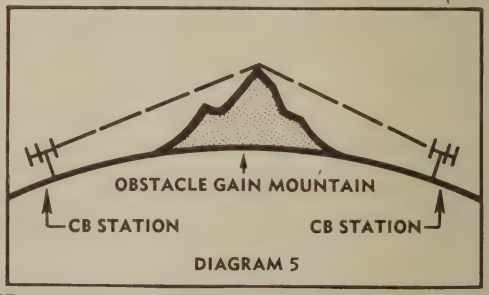
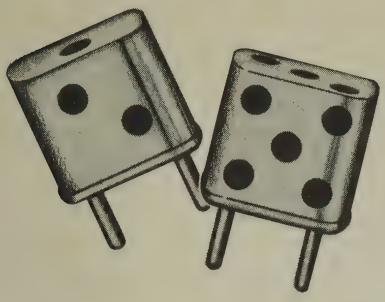



DIAGRAM 5

Here you will note a mountain (and this could be a hill or tall building) located almost exactly halfway between the transmitter location and the receiving location. Contrary to popular belief, the mountain, though it blocks the transmitter from *seeing* the receiver, and though the receiver is well beyond the magical "⅓ the distance beyond the optical horizon" mentioned previously,

# DON'T GAMBLE



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actually helps the transmitted signal get to the receiver! As a matter of fact, the mountain *amplifies* the signal! Sounds weird, but it is true, as proved out first in the early 1950's in an Alaskan VHF radio circuit. So if you happen to have a convenient mountain between you and a CB'er 25 to 50 miles away, you just might be able to make good consistent contacts with that CB'er by pointing your antenna right square into the mountain. This type of transmission-reception is called "obstacle gain", because the obstacle (the mountain, etc.) is creating gain (ie., amplifying your signal) over the level which could be expected if the mountain were not there at all.

Earlier in this article we noted, in diagram 1, most of the signal in line B, moves off into outer space. Some of it, however, may occasionally end up at the receiver of another CB'er many hundreds, or even several thousand miles distant. This happens when your signal runs into an unusually heavy concentration of gas in the ionosphere (*third layer up* . . . atmosphere, stratosphere, then ionosphere). It should be noted that gas particles in the ionosphere are spread so far apart that there are more gas molecules in one cubic foot of air at sea level than will be found in a slab 100 miles long, 100 miles wide and 10 miles deep 70 miles up. So . . . when a few of these very well spread apart gas particles get together, they form a pretty formidable barrier to your up-coming (from earth) 11 meter signal which has by this time decided it is going to have clear sailing from here on out with no air or gas particles to slow it down. Suddenly, slam, into the concentration of gas particles it lands, and just as rapidly as the signal hits the particles, it is on its way back to earth as shown in figure 6.

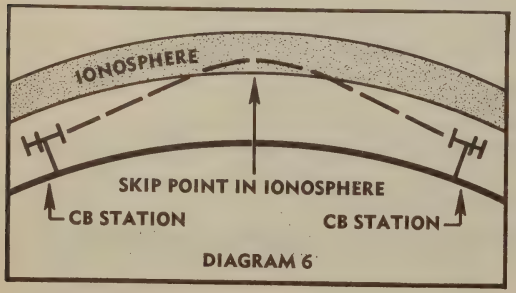


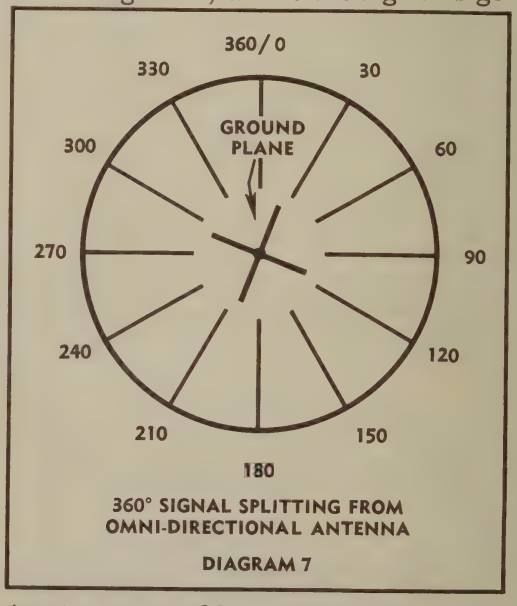
DIAGRAM 6

Because the gas particles in the ionosphere are pushed around by high altitude winds and convection currents, the small gas cloud which formed to bounce your signal back to earth may disappear just as suddenly as it appeared, when the "ionospheric winds change" or when the ionosphere is suddenly bombarded by strange electrical particles from the sun, called neutrons.

**The Omni-Directional Signal**

When we began to discuss what happens to your signal when it leaves the antenna, we casually mentioned non-directional or omni-directional antennas, and then quickly got into beam antennas which squirt your signal in a particular direction.

Now let's return to that ground plane antenna that is being driven by a mighty two watts coming up the coax (allowing for loss in the coax, inefficient connections, etc.). Your ground plane antenna radiates equally well in all directions. Thus your two watts goes east, west, north, south and to all points on the compass between these major headings. Needless to say, the two watts are spread over a complete 360 degree circle. If we were to pick out 360 points around that circle, as in diagram 7, where the signal is going to, we would have 360 different receiving points for the signal. Each point would be essentially receiving 1/360th of the two watts, or (and you can calcu-



360° SIGNAL SPLITTING FROM OMNI-DIRECTIONAL ANTENNA

DIAGRAM 7

late this by dividing the two watts by 360) .0053333 watts! Actually you could carry this even further and divided by 720 (a receiving point at every ½ degree point around the circle), 1440 (a receiving point at every ¼ degree point around the circle, etc., and come up with even less power.

Mind you, this is not the amount of power that your friend's receiver is picking up. This is the amount of power you are radiating in his direction! So all of a sudden your two watts into the antenna doesn't seem like very much, when you realize that it is being split an almost infinite number of ways before it ever leaves the antenna!

So there you have it. Part of your mighty 2-3 watts of 11 meter power travels along the earth's surface to be intercepted by another CB unit, or units. More of your power radiates off into space where it travels on and on, continually fanning out, to be lost into space forever. Some of this "space signal" may be returned to earth as skip on rare occasions. Still more of your signal is absorbed by nearby trees, hills, power lines, telephone poles, buildings, etc.

The end result, if we are careful in the planning and prudent in our system design, is two-way communication with another CB station. But is it any wonder that we find ourselves limited to 10-20 miles in range, when actually such an infinitesimal amount of power (something on the order of 0.0000000001 watts!) ever reaches the receiver of a nearby CB'er!

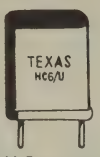
*Take care of these precious few watts. They are all we have!*

## WATCH FOR 1W4844

CBH staffer Gar Greene, Jr., 1W4844, resting up from his trip to Chicago this past month advises he will be hot on the road to CB-adventure in the month ahead, attending nearly a dozen CB conventions and meetings throughout the eastern half of the country. Gar passes along word of the following meetings.

**May 5-6**—CB Club Outing, Lafayette, Ind.

**May 26-27**—"17th District Convention," Wichita, Kansas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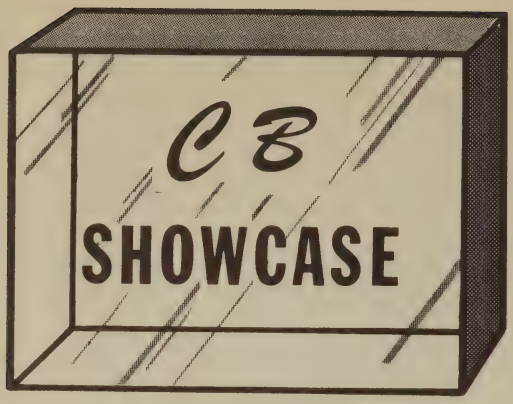



## NEW CB PRODUCTS OF THE MONTH

**Turner Microphone Company,** Cedar Rapids, Iowa, and their nationwide distributors and dealers are showing off a brand new twin-microphone package which gives the CB'er a perfect dual for base or mobile station operation. The new package, dubbed the "Turner COMbo", includes a model 350C ceramic hand-held mike for mobile, and a snappy 254C hi-impedance ceramic for base station. The package is now available at Turner dealers from coast to coast, list price $40.30.

**Turner COMbo**

**Lafayette Radio Electronics Corporation,** 111 Jericho Turnpike, Syosset, L. I., New York has announced a new noise eliminator-squelch unit for addition to any and all superhet type receiver (transceiver) circuits, including the CB units HE-15A, HE-15B, HE-20A and HE-20B.

The new squelch unit effectively reduces noise from ignition systems and other sources. Two tubes, a 6AL5 and 12AX7, are used in the circuit. Instructions for installation and operation of the unit are included. Small in size, the unit sells directly from Lafayette for $10.95 net. Ask for model HE-55 "Squelcher."

**Ozco Sales,** Granite Avenue Extension, Canaan, Connecticut is enthusiastic about the performance of its new 1-10'er CB and AM broadcast radio coupler. This unit allows you to use your CB mobile antenna for both CB and AM radio reception. In other words, if your XYL says "only one antenna on my car," you simply remove your existing auto antenna and replace with a CB antenna, Next step? Add a 1-10'er coupler and bingo, you have the use of your CB antenna for both effective CB and effective AM BC coverage. The 1-10'er comes complete with cable (RG-58U), and companion plugs for your car radio and CB transceiver. Price is $5.95.

**Raytheon Company,** Westwood, Mass. has a new do-it-yourself auto noise suppression kit for the CB'er plagued with ignition noise, generator whine and other assorted automobile bred disturbances. The kit is available in "standard" or "deluxe" form. The standard offers everything normally needed for the usual cases of ignition noise (theoretically, everything but a Ford cure!). The deluxe also includes two additional by-pass capacitors, an RC network and shielded generator wire. Price of the Standard kit is $10.95, while the deluxe kit retails for $24.95. For further details, contact Raytheon Distributor Products, 411 Providence Turnpike, Westwood, Mass.

**U.S. Communications Corp.,** 6439 Sunset Blvd., Hollywood 28, California has developed a new paging receiver "so small that it will fit into any shirt pocket." The unit, designated the Pagefone, is designed for one-way paging operations where a base station makes one-way calls to plant employees and others who are on-call via radio. The Pagefone is a 9 transistor circuit, with one diode and 1 thermistor. The superhet receiver has 3 i.f. stages, is powered by a simple low-cost 9 volt battery, with life in excess of 75 hours. Price is $49.50. The unit is available for any of the 23 class D CB channels.

**U.S. Communications 'Pagefone'**

**EICO** 33-00 Northern Blvd., Long Island City 1, New York has up-graded its popular 770 series CB transceivers with a new retractable coiled microphone cord and a push-to-talk ceramic-element microphone. The coiled cord is

1 foot long retracted and 6 feet when fully extended.

**EICO's improved 770 Series**

EICO 770 series CB transceivers are available in wired or kit form. The superhet receiver tunes all 23 channels, with up to four transmit available. The 770 (117 vac-only) retails for $79.50 in kit form, $109.95 wired. The 771 and 772 (117 vac/6 vdc and 117 vac/12 vdc) models retail for $89.95 kit, $119.95 wired.

In answer to a flood of mail concerning the Stinger Corporation, CB Horizons has learned rights to the firm have been sold to Calibration Standards Corporation, Alhambra, California. CSC has acquired the manufacturing design rights, trade names and trademarks of the Citizens Band products formerly marketed by Stinger Corporation.

According to Calibration Standards, all Stinger CB, marine and aircraft antennas will soon be back in production under the new firm. The Stinger Futura-1 Discone Base Station antenna will also be re-activated by CSC. Calibration Standards is a well known supplier of military and industrial test equipment for quality control applications. You can reach the new owners of Stinger line by writing D. W. Marks, General Manager, Calibration Standards' Stinger Products, Box 2315, City of Industry, La Puente, California.

**Electronic Distributors,** 5603 E. Washington Street, Indianapolis 19, Indiana has a new gadget for the CB shack or test bench called a Battery Eliminator. Plug the unit into your 117 vac outlet and bingo . . . you have 6 or 12 volts DC! The Six-Twelve'r by EDI is great for charging your run-down auto battery after a mobile session, checking out equipment on the bench, or powering mobile only transceivers at the base station. Price? $17.95 list.

# *The CBH Lab Reports . . .*

## WE TEST

★ SMEA POW-R-MIKE
★ EV714SR MIKE
★ MILEAGE MAKER ANTENNA

### SMEA Pow-R-Mike

SMEA Engineering, Electronics Division, Tipton, Indiana recently introduced a new product for CB'ers which immediately attracted considerable attention. The unit is the Pow-R-Mike, an attachment to your transceiver which reportedly boosts "talk-power" and increases the talk-out-range of your station by some 25-50 percent.

The installation of the SMEA Pow-R-Mike is essentially the same as the installation of any ceramic microphone. You unsolder (or disconnect) the leads in the connection of your present male microphone plug, replacing the removed wires with leads from the Pow-R-Mike. The Pow-R-Mike contains its own built-in or self contained microphone, and you now have considerably increased sensitivity at the audio end of your transceiver. For example, where sounds from nearby rooms were previously unaudible over the air, the Pow-R-Mike will frequently bring them in "loud and clear" and they will be easily copied by the station you are conversing with.

The Pow-R-Mike has tremendous audio reserve, and it is possible if carelessly operated to overmodulate the transmitter driving distortion products (audio sidebands) over a wide range of channels either side of your operating channel.

However, properly operated, the Pow-R-Mike possesses the capabilities to sock your signal home in areas where copy was previously impossible or very rough. In many cases, the increase in talk power will be equivalent to multiplying transmitter power to 10-15 watts.

Sale price of the unit is $39.95 from SMEA Engineering.

### THE EV714SR MOBILE MIKE

A quick glance through any equipment catalog will show that professional-quality mobile mikes cost from $15 to $50—net! However, this is so only because the 714SR is too new to be in the catalogs.

Conveniently shaped to fit the palm of your hand, and featuring a coiled cord made of natural rubber (which won't crack when it gets cold), this

high output ceramic unit meets many professional standards at a net price of $9.90.

Among features not usually found in mikes of this price are the "unbreakable" Cycolac case (actually, it *will* break if you use a sledge-hammer on it, but three junior ops couldn't put a mark on it in five days of play) and the removable back feature which lets you repair a switch or replace an element should something wear out after several hundred thousand hours of use.

Since the mike is ceramic rather than crystal, it's tailor-made for mobile use. Extremes of heat and humidity don't faze it. Speech quality is crisp, with frequency response shaped for best communications. The audio line in the cable is shielded separately from the push-to-talk switch line, eliminating any problems from this source. With the mike, you get a panel-mounting bracket which hangs it in easy reach on the dash, just like the high-priced police-and-taxi units.

One minor disadvantage must be noted; early production (including the unit we tested) had very sharp serrations on the push-to-talk button. If you had a calloused thumb, this didn't bother you—but normal fingers found the sharp edges actually painful after a long transmission. (There's no truth in the rumor that this was done at FCC request to keep transmissions within five minutes!) However, the Electro-Voice people inform us that these edges have been smoothed down in later production, and are no longer any problem.

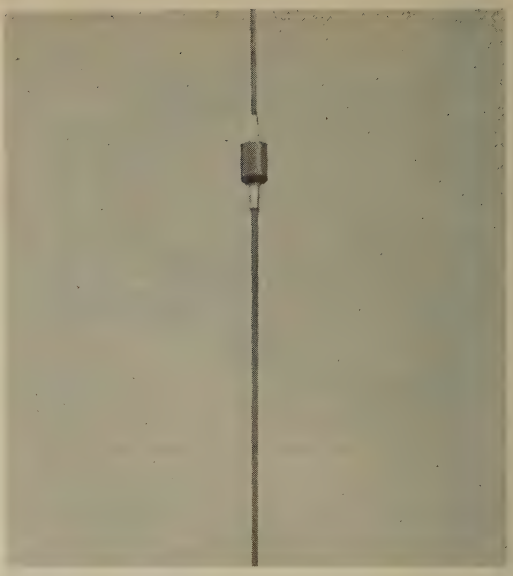
All in all, the Electro-Voice 714SR appears to be an excellent microphone for CB use.

---

## CREATIVE PRODUCTS MILEAGE MAKER ANTENNA

Creative Products, Inc., 6944 Plainfield, Cincinnati 36, Ohio recently introduced a modern design fiberglass CB antenna that features a center mounted loading coil and unusual strength in construction.

The Mileage Maker, model FG102CL,



**Mileage Maker under test**

antenna arrives "knocked down" in disassembled form. Assembly is simple, requiring only a minute or so of time. The antenna mounts in any standard ⅜-24 base or spring mount and consists of a base section approximately four feet long, a loading coil which mounts on top of the base section, and a top section, also approximately 4 feet in length. The fiberglass construction proved to be tougher than we expected, and Creative Products claims a new method of interweaving the fibers in the glass is responsible for added strength. Suffice to say that a 200 pound man was unable to even nick the antenna's exterior while beating it against a brick building.

The antenna may be tuned to channel by simply removing a top cap and snipping the whip to resonance. This proved a simple chore with an SWR meter in the line and a field strength meter some 50 feet away. Both minimum SWR and maximum radiation meshed nicely during the pruning process.

The Mileage Maker CB antenna is a good performing handsome addition to the CPI antenna line, destined to stretch out the miles for years and years in long lasting durable fiberglass. Suggested price is $18.95.

# CITIZENS COMMUNICATIONS

**CALLING ALL ACTIVE CB'ERS**

**Citizens Communications Reports is a space set aside each month by CBH for the exclusive use of local and regional CB'ers around the nation. In each of the 24 call districts CB'ers are appointed to serve as "CCM's" (Citizens Communications Managers) or "ACCM's" (Assistant Citizens Communications Managers). These appointed CB'ers are reporters for CBH, gathering news from CB clubs and activities in their regions. Make it a point to bring up the matter of representing your club's activities with a monthly club report to your CCM or ACCM, at your next club meeting.**

**If you don't see news from your Call-District or locale in print, drop CBH a line and apply for an ACCM or CCM appointment to your district.**

**New appointments this month include Jack Kinsey, 11Q5345 of San Bernadino, California (ACCM), and Bill Ihlefeld, 22Q0035, of Hate Rey, Puerto Rico, Chester Zubrzycki, 3Q1332, Chester, Pennsylvania. The new CCM for the 18th Call District is Ralph C. Combs, 18B1711, 212 Bolivar Street, Owensboro, Kentucky. All 18th District ACCM's and CB'ers should report their activities to CB'er Combs, in the future.**

**FIRST CALL AREA: CCM—Donald O. MacLeod, 1W8438, 26 Elmview Circle, Dover, N. H.; ACCM'S—Muriel Brumage, 1Q2576; Seth B. Paull, 1W1717; William M. Welch, 1Q5640.**

From Roger Williams, 1W4482 of Newport, Maine comes a report of the Tri-County CB Club which covers Penobscot, Piscataquis, and Somerset Counties. He notes that they have 50 members to date and are growing. 1W9831, Jack Bridges of Dexter, is the prexy, Bernard Crabtree, 1Q0855 of Dover, Maine is Secretary, and Bob Ladd, 1Q2574 of Dover handles finances.

Over in Vermont, Secretary George Cummings 1Q2314 sends along the latest officers for the Twin State Five Watters. Prexy is Robert H. Warren, 1Q1076, V. P. is Eleanor S. Baril, 1Q1910 and Treasurer Richard Tilton, 1Q3590. It is with regret that we learn of the passing of Clyde King, 1W8270, who passed away Monday February 19. Newell Keay, 1Q1455 announces a "Gala Field Day" is planned for Sunday, July 15 near Springfield, Vermont. Twin State Five Watters and the Springfield Squadron of the Civil Air Patrol are Jointly sponsoring. Channels 9 and 11 will be monitored for incoming CB'ers. It is expected that a large "fly in crowd" will show and transportation will be provided by 1Q5820 from the Springfield airport to the field day site. Reports from Mass. reveals the "23 CB Radio Club of North Central" has new officers, including Herb Mitchell, 1W8674, President. In Connecticut the Valley CB club of Oxford is well under way with William Nimmons, 1Q3737 of Ansonia serving as prexy. They meet on the second Wednesday at the Sun and Surf Club, Route 34, Seymour, Conn. From Rhode Island way, ACCM Seth B. Paull, 1W1717 reports that Rhode Island club members handled emergency traffic recently on a relay from Bridgeport, Conn. to Pawtucket. Because of a disconnected land line phone, the message was delivered to the Pawtucket Police who took care of the final relay. 1W8148, Alfred Silva pitched in to aid two men from the town trucks that were broken down at 3 A.M. in a blizzard. We are sorry to learn that George Ebbits, 1W6721 is in the V.A. hospital in Providence. His address is Ward 4-A, Room 410 and he would certainly appreciate those CBL cards. NOTE; All KBA and 1Q, 1W area CB'ers. This is your news column, so keep us informed of your activities!

**THIRD CALL AREA: ACCM—pending**

Sunday, January 28 3W4471 received a call from 3Q2268, Bob Gerhart, requesting emergency aid at the Monocacy Quarry for a skin diver who had not returned to the surface. Two way CB radio was pressed into service with 3W4471 acting as temporary base until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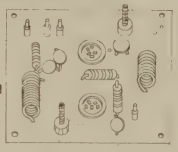
operations were suspended Thursday February 2. 3Q0800, Bill Painter, did a commendable job as he was active with mobile to base communications for approximately 63 hours. At 11:20 AM, February 3, another call came into 3W4471. This time it was from the Pennsylvania State Police asking for portable units to help with the rescue work. A total of ten units turned out to last until Saturday the 4th when the body was finally brought up. (Keystone 11 Meter League)

**FIFTH CALL AREA: CCM—J. M. Robinson, 8Q0484/ 59547 Granby St., Norfolk, Va.; ACCM—J. P. Setliff, 5Q2388, RFD #1, Dudley, N. C.**

The newly formed Bladen County Citizens Banders (BCCB's) of Clarkton, N. C. held their first club meeting in January and then in February voted to join up forces with the Bladen County Civilian Defense RACES Radio Network. A successful RACES communications test was conducted in February on a frequency authorized by the North Carolina Civil Defense Director. The first Monday of the month, the group meets in Clarkton, at a local restaurant. NATCH "9" is monitored.


ALL NEW! 2-STAGE NUVISTOR CB PREAMPLIFIER



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**Washington, D.C.**

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CBH-1


**SIXTH CALL AREA: CCM—Donn W. Sanford, 6Q3944, Box 304, Northport, Alabama; ACCM—Ken Chambliss, 6Q4462.**

The Griffin, Georgia Citizens Communications Club reports they are undertaking a special project each month in their area. In November and December they furnished food baskets for the Needy through "Operation Tin Can." "Operation Toys" brought many toys and gifts to the local children's home. The club is now in the process of acquiring and setting up a complete station for a local man who became interested in CB but could not afford the equipment. The man, a shut in, is blind. Our hats off to this fine group, headed up by President Paul Miller. The Black Warrior Citizens Band Club of Tuscaloosa, Alabama is supplying mobile news reports to Radio Station WNPT, or 6Q4545, as you will! It's surprising to learn how many of the local CB'ers there stay right on top of the news scene! Vic Wissand and Bill Ramsey have been serving as the club's TVI committee of late, and have helped to soothe over many ragged TV sets in the region. Many of the clubs 47 members have volunteered for civil defense work and have already received their decals and cards. NOTE: 6Q, 6W and KDB area CB'ers and clubs. This is your news column. Have your club secretary, or you yourself keep me informed of your group's latest news!

**HILLBILLY CB CLUB JAMBOREE**

The Hillbilly CB Club, Post Office Box 206, Maryville, Tennessee is looking for support to stage a bang-up CB jamboree somtime during July. If your club, or you, would be interested in participating, drop a note to the group's corresponding secretary, 6Q3223, Richard Crowder.

**NATIONAL CONVENTION AND JAMBOREE**

The Central Alliance of Florida CB Clubs is holding a convention at Cape Canaveral July 6, 7 and 8. Special tours of Patrick AFB, lectures, exhibits and fun for all. Contact Howie Gibson, 7Q1840, Box 74, Cocoa, Florida.

**EIGHTH CALL AREA: CCM—Ralph M. Lord, 8W1494, 4834 Crown Ave., Baton Rouge, La.**

The Ozark Five Watters and the Two State CB Clubs invite all CB operators to attend the Arkansas State Wide Jamboree, May 5 and 6 in the Boston Mountains of the Ozarks. Location is Mountain Lodge Ranch, Winslow, Arkansas. The convention will feature exhibits, booths, displays, noted speakers, FCC speaker, conducted tour of the resort area, etc. Lots of motel and restaurant accommodations, and mountain tops to try your CB rig from. Bring along the portable beams and see what you can work! For further information and tickets, write to Ozark Five Watters Jamboree, Russell W. Blaylock, Artist Point, Mountainburg, Arkansas.

**NINTH CALL AREA: CCM—John Hudson, 9Q0026, 235 Englewood, San Antonio, Texas.**

The Beaumont CB Club will hold a CB meeting on May 6 at Anahuac Park, Anahuac, Texas. This will be a picnic meeting and all CB'ers in southwest Texas are invited to attend. Contact David Laquette, 9Q0412, 2030 Ashly, Beaumont for further information. We met a pair of CB'ers from Austin who are attempting to get a club started there. Those interested contact James C. Moore, KED0153, 103 E. 52nd Street, Austin, Texas. At the recent San Antonio CB Club meeting the group kicked around organizing a CB Jamboree in San Antone. Interested parties should contact Art Hall, 9Q0104, 213 Clutter, San Antonio, Texas. Jim Logan and John Hudson are trying to organize a Civil Emergency Service in San Antonio. CB radio will be used extensively in this organization. Jim Logan, 9W2004 can be reached at 1606 Alhambra in San Antonio. NOTE: 9Q, 9W and KED area CB'ers. This is your news column, so get those reports in!

**TENTH CALL AREA: CCM—Bob Johnson, 10W4389, 4300 Rector Avenue, Fort Worth, Texas; ACCM—James Abney, Jr. 10Q2516.**

Lawton, Oklahoma area CB'ers deserve a big hand for the assistance they gave local police during a big downtown fire when the temperature was a cool 17 degrees. Mrs. 10W4389 apparently has the first CBL card from the '77 Sunset Strip' show. I am sure you know they use the pseudo call 11J5486.

The Dallas CB Club got together with the Fort Worth CB Club for a huge joint coffee break. The meet was held at the Half-way House on the Fort Worth-Dallas Turnpike so that no-one needed a passport!

10Q2432 assisted by 10Q1535 sponsored a coffee break at 2432's with 135 registered guests from Dallas,

Weatherford, Bridgeport, Cleburne, Newark and Denton, Texas.

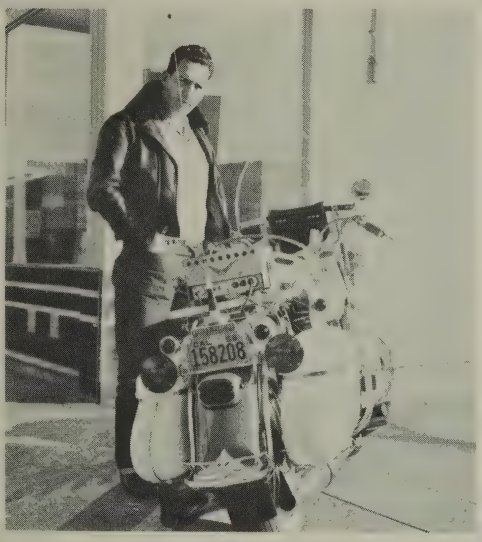
John Pittman, 10Q0345 assisted by 10Q0628 worked with 20 CB'ers to handle communications and flagging for the Polar Prix Sports Car Races at Green Valley Speedway. Again, CB came through with flying colors! I would like to thank all of the CB Clubs and 10th area CB'ers for their fine reports. Keep 'em coming!

**ELEVENTH CALL AREA: CCM—R. V. Watson, 2206 W. Palo Verde Drive, Phoenix, Arizona; ACCM's—Mrs. Donna Marshall, 11Q5171; Jack Kinsey, 11Q5345.**

The United Cerebral Palsy Fund Drive in Phoenix was ably assisted by the Arizona Citizens Radio Association. The group made donation pick-ups within minutes of the time the phone pledges were made. During the continuous 18½ hour telethon 25 mobile units and one base station (with one extra relay station) were kept in operation. One big surprise was donations received from CB'ers located all around the country who apparently followed parts of the collection and telethon by listening in **"on skip"!** This extra money was a big surprise to the local drive officials who are very enthusiastic over the work done for the project by the local CB'ers.

Officers of the Phoenix organization and the Five Watt Resistors of Tucson met in March to plan several joint outings for the spring and summer months.

The 10-99 Club of Orange County, California plans an Orange County Jamboree for June 3, 1962. The big attraction is slated for Irvine Park, the City of Orange, and all interested CB'ers are invited to attend. Local distributors will be on hand with equipment displays and a fun time for the entire family is promised.




**MOTORCYCLE CB MOBILE**

Owner Ed Medina, 12Q2479 and his San Francisco area famous "motorcycle mobile." Ed uses a Webster 4-11R transceiver which apparently really takes the knocking about on the back of his cycle, and the Stinger antenna.

**FOURTEENTH CALL AREA: ACCM—Fern Fechner, 14Q1295.**

The Apple Capitol 5 Watt Association meeting was held at Dean Jone's home, 14Q1075 on February 27. Homer Neely, 14W1866, is doing some scouting work to find a spot to hold a pot luck get together with other clubs in the area. The club has agreed to monitor channel 12 in our area. Bert Paine, 14W0995, Edmund V. Fechner, 14Q0497, Clyde Decker, 14Q0821 and Bill King, KFI0076 assisted the Cashmere, Washington Chamber of Commerce by providing communications to dispatch cars carrying some 850 snow-train excursion guests to different points of interest in the area.

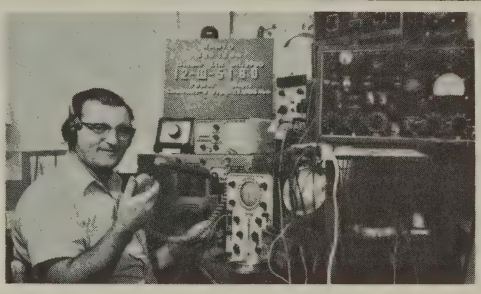
**FIFTEENTH CALL AREA: CCM—Spencer Van Noy, 15W1894, 632 E. 3900 South, Salt Lake City 7, Utah.**

With the boating and fishing season just around the corner we find we have a very fine CB'er, Lloyd Tuers, 15W2539-unit 3 of Murray, Utah who is ready to turn into a boater for the summer. Lloyd, who is an electrician by trade, has spent all of his spare moments during the past two years building a 22 foot cabin cruiser, complete with 2 bunk beds, fresh water tank, stainless steel sink, ice box and all of the many conveniences of home. Of course he has a special desk inside for his CB Two-way radio. Mr. Tuers holds a special office appointment with the Utah State Park and Recreation Department, and he will use his CB transceiver to help patrol the 17 lakes throughout the state. How about you club groups and individual CB'ers around the 15th-KGB call district? Send along your news so we can report it in this column.

**SEVENTEENTH CALL AREA: CCM—Lawrence J. Woods, 17W5910, 1735 Michigan Drive, Evansdale, Iowa; ACCM's—Pete Davis, 17Q2669; Jim Laversee, 17W3361.**

A new CB Radio club has been formed in Des Moines, Iowa and Polk County. The new group, "Des Moines Citizen Radio Association," intends to provide emergency communications to the region. Channel 4 is the adopted monitoring channel, and Glen E. Schaefer, KGH0285 is the President.

May 26 and 27 promise to be big days for the 17th Call Area CB clan. A Call-Area wide convention, to meet in Wichita, Kansas, is growing by leaps and bounds. The Citizens Radio Club of Wichita, Inc. is sponsoring the meeting at the "Broadview Hotel." The convention will feature an FCC Speaker, exhibits and displays, banquet and social hour. Anyone interested in CB radio is invited to attend. Drop a note to Citizens Radio Club of Wichita, Box 2638, Munger Station, Wichita, Kansas for full details including registration data.



**COLLECTOR'S ITEM**

John Castleum, 12W5180 is a Charter Subscriber to CBH, and has one of the few "complete" collections of CBH in existence. The 12W5180 station includes a Kaar TR-326 transceiver and a good collection of test equipment. John services radio and tv receivers and is a member of the Marin County CB Club in San Rafael, California.

**EIGHTEENTH CALL AREA: CCM—Ralph E. Combs, 18B1711, 212 Bolivar, Owensboro, Ky. ACCM's—D. C. Wolcott, 18A4803; Thomas Gilliams, 18QA1868.**

March meeting of the Cedar Rapids Citizens Radio Club was held at Memorial Hall in Marion, Iowa. A pot luck dinner—family style—was served while the members discussed a pending flood threat in the community. Channel 7 was re-affirmed as the club frequency with 18 serving as stand-by for business.

A surprise visit to Cedar Rapids by 18A4125 on February 8 surprised the home-town gang. Dick is a fellow member of the CRCRC who enlisted in the Armed Forces in August. A letter received by CRCRC of Cedar Rapids from Deputy Sheriff Frank McSpaden thanked the group for assistance rendered during a distress call.

During the Polio March of Dimes, the Evansville Club was asked to work with the ham radio operators to collect pledges. A 17 hour telethon brought out an assignment that put six of the base stations into operation. The hams in the area set up at **our** base stations and it was CB mobiles which went to work on the collections. 31 mobile units were active and the program was a huge shining success and an example of how CB'ers and hams can work together in a community project. The Evansville club is now working on plans to secure a club house.

The Kentucky-Indiana Citizens Band Radio Club is now in its second year. With 110 paid up members, the growth and success of the group has been considerable over the past 12 months. Serving the Owens-

**Get 6 or 12 Volts D.C.**
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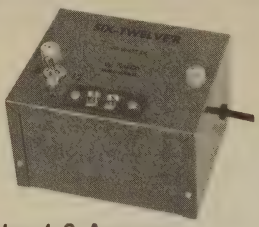

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**The Candy-Man, 18B2250, visits the CBH booth at the Chicago NCRL meet.**

boro, Kentucky area, the group has many notable achievements during its first 12 months. The club holds its meeting on the second Thursday of each month and stands by on Natch "9".

### MEET THE 'CANDY-MAN'!

Lives there a CB'er across the land who has not heard of the Candy-Man?

Breathes there a CB'er in Tim-Buk-Too who has not heard 18B22-50?

His name is Kurm Jessop, and his CB signal from "Candytown, Indiana" is one of the most famous (if not THE) in the country. Kurm's multiple element beam and 5 watt signal combine to make his business more profitable and spread his fame from coast-to-coast.

Candytown, Indiana is actually a nomenclature you will find on no map. 18B2250 is the owner of Jessop's Candies, an elaborate family operation of fine candy makers in the best of old fashioned kitchen brewed style. Jessop and his family have been appearing at county and state fairs since 1850, which makes Kurm several generations down the line. But it was up to Kurm to discover CB radio as a means of coordinating his traveling fair displays as they roam the entire eastern half of the nation every summer. During the winter Kurm's 18B2250 is heard all hours of the day and night directing his 'mobiles' around the country side as they call on fund raising drives and other public-spirited projects selling Jessop's fine home-made candies.

Next time you are on the band and 18 area stations are coming through, take a listen for the "Candy-Man", 18B2250, he's the man with the **fat** signal on channel 15!

with 1 pair of crystals microphone and power cables

**$179.50**

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• 8 Channels, crystal controlled transmitter and receiver • Tunable receiver for 22 channels • Transmitter 100% Class B modulated • Adjustable squelch • Automatic noise limiter • R. F. Power indicator • 1 Year guarantee • Easy to install. Ideal for home, boat, car or business. Weighs only 9 lbs...4¾x9x½x11¼ • FCC Type accepted* (*in preference to only certification).

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# T.K. on C.B.

By TOM KNEITEL, 10Q3161

## RAYTHEON REPLIES

Last month we asked a number of questions regarding the new Raytheon-Ford CB tieup. Frankly, these questions popped up in several noggins other than our own—reader mail was quite high.

Being ones to try to satisfy our readers' needs and requests we went out and rang Raytheon's doorbell to check out the story a little deeper and dig around for the answers to the questions which we asked last month. Here's what we found out.

Q—WHAT HAPPENS IF THE PROSPECTIVE BUYER HAS NEVER HEARD OF TWO-WAY MOBILE RADIO, AND CB IN PARTICULAR? WILL HE BE ABLE TO GET THE FULL FACTS ON WHAT HE MIGHT BE BUYING?

A—In many instances the prospective buyer won't have any prior knowledge of two-way or CB. We at Raytheon have prepared a series of educational presentations for Ford management and dealers explaining to them in lay language just what CB radio is and isn't. This material is written in such a manner that all personnel will be easily able to explain the CB service to interested persons purchasing Ford trucks and cars. We hope that this will encourage the proper use of the CB service.

Q—WILL THE FORD DEALER BE ABLE TO PROPERLY INSTALL THE CB EQUIPMENT?

A—1) We have made complete installation instructions and diagrams for the Raytheon Ray-Tel TWR-2 in the various types of Ford vehicles.

2) In addition, we have given Ford a list of our certified (FCC licensed) service stations who can assist in the installations should this become necessary. The Ford dealers will also advise the buyers of the need for a base station and arrange for the installation of the unit.

Q—WILL THE FORD DEALERS KNOW TO STOCK THE PROPER CRYSTALS?

A—The dealers will be fully stocked with quality crystals in matched sets ground especially for our unit. The units are factory delivered with Channel 11 crystals, although all channels are available.

Q—REGARDING THE FCC LICENSE—HOW WILL THE BUYER BE INFORMED THE NEED FOR A CB LICENSE AND HOW WILL HE BE MADE TO APPLY FOR ONE?

A—In cooperation with the FCC, the Ford dealers have been versed on this problem. They will, on the spot, explain the situation, furnish the forms, and extend any needed assistance in applying for the license.

Q—WHAT ABOUT THE INCREASED WORK-LOAD ON THE FCC AS FAR AS PROCESSING THE ADDITIONAL CB LICENSES WHICH WILL BE FILED AS THE PROGRAM GROWS?

A—Raytheon has informed the Ford dealers that they (Raytheon) will be pleased to perform a pre-FCC examination of all applications to lessen the instances of rejected applications.

Q—DO YOU FEEL THAT THE PUBLIC IS WELL ENOUGH INFORMED ABOUT CB SO THAT THE SERVICE WILL NOT BE CONSIDERED AN ELECTRONIC FAD OR TOY?

A—There is currently a growing amount of interest in CB by national general-interest publications. For example, READER'S DIGEST is now preparing a feature on CB.

## THIS MONTH WE'RE GIVING AWAY

# "CB's Dream Station No. 2"

**Courtesy of CB Horizons and the CB Manufacturers Below!**

**NO MONEY! NO BOXTOPS! NO CONTESTS! — JUST PRIZES!**

**All you have to do is fill out the Gigantic Giveaway card on insert page 45 (or a reasonable facsimile) paste a stamp on the card, and mail it to CBH before May 10th! All cards received will be thrown into the CB Horizons goodie barrel and the winning cards drawn out by a CBH staffer at noon May 10. Winners will be notified by mail, and all prizes will come directly from the generous manufacturer who cooperates in this program by making the fine equipment available.**

## $426.27 IN PRIZES THIS MONTH!

**Winner No. 1**—Browning Lab 23/S-9 23 Channel transmitter, with 23 crystals and the Browning Lab R-2700A base station receiver. The ultimate in deluxe base station operation with all of the operating ease you could possibly ask for. **A $338.00 prize!**

**Winner No. 2**—SMEA Engineering Pow-R-Mike, the very latest in increased audio power for your base station. Simple to wire in, it really adds range to your installation providing crisp-clean modulation for maximum 'sock' when the going gets rough! **A $39.95 prize!**

**Winner No. 3**—Cush Craft CG-11 ground plane, the most for the operator who wants maximum results with minimum investment. Simple to install, perfect match to your transceiver. **A $12.50 prize!**

**Winner No. 4**—Vanguard RF amplifer from Vanguard Electronics, 190-48 99th Avenue, Hollis 23, N.Y. Attaches to your CB receiver providing extra gain to make weak signals stronger, marginal signals readable. Precision tuned to 11 meters, wired and ready to go. **A $10.99 prize!**

**Winner No. 5**—Turner Microphone Company 350C mobile mike. Ceramic, hand-held with hanger button for maximum mobile operating ease and results. **A $10.08 prize!**

**Winners No. 6-11**—Five winners here, each receives a .005% close tolerance crystal from Texas Crystals, 1000 Crystal Drive, Ft. Myers, Florida. A snappy way to get a new-needed channel for summertime mobile work. **Total value of prizes here, $14.75.**

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**Hey—Give me a crack at all those fine CB goodies!!**

**Name**_____ **Call**_____

**Address**_____

**City**_____ **Zone**_____ **State**_____

**I would like to see CBH run an article about:**

_____

**I am ☐ (am not ☐) satisfied with my CB transceiver.**

**(Reasons if not satisfied:**_____

_____.

**Type of CB rig mentioned above:**_____.)

CARD GOOD FOR MAY DRAWING ONLY

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**Winner No. 4**—Vanguard RF amplifer from Vanguard Electronics, 190-48 99th Avenue, Hollis 23, N.Y. Attaches to your CB receiver providing extra gain to make weak signals stronger, marginal signals readable. Precision tuned to 11 meters, wired and ready to go. **A $10.99 prize!**

**Winner No. 5**—Turner Microphone Company 350C mobile mike. Ceramic, hand-held with hanger button for maximum mobile operating ease and results. **A $10.08 prize!**

**Winners No. 6-11**—Five winners here, each receives a .005% close tolerance crystal from Texas Crystals, 1000 Crystal Drive, Ft. Myers, Florida. A snappy way to get a new-needed channel for summertime mobile work. **Total value of prizes here, $14.75.**

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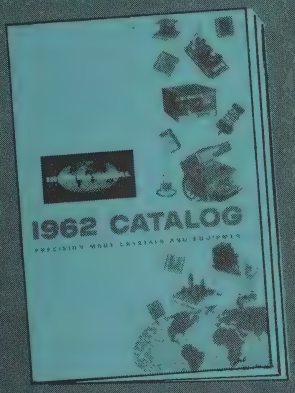


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**International Crystal Mfg. Co., Inc.**
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Please rush FREE 1962 International Catalog.

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**I would like to see CBH run an article about:**

_____

**I am ☐ (am not ☐) satisfied with my CB transceiver.**

**(Reasons if not satisfied:**_____

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**Type of CB rig mentioned above:**_____.)

CARD GOOD FOR MAY DRAWING ONLY

(Cut this card along dotted and perforated lines—Official form 452-C for mobile Transmitter identification)

1. _____
(Station call sign)

FCC Form 452-C
(Revised)

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

## TRANSMITTER IDENTIFICATION CARD

THIS CARD ATTESTS THAT AUTHORIZATION HAS BEEN RECEIVED FROM THE F.C.C. FOR INSTALLATION AND/OR OPERATION OF THE RADIO TRANSMITTER TO WHICH ATTACHED. (Fill in items 1 through 5)

2. Name of permittee or licensee _____

3. Location (s) of transmitter records _____

4. Transmitter operating frequencies _____

5. Signature _____
(Permittee, licensee, or responsible official thereof)

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STAMP
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**International Crystal Manufacturing Co., Inc.**

**18 North Lee**

**Oklahoma City, Okla.**

Place
Stamp
Here

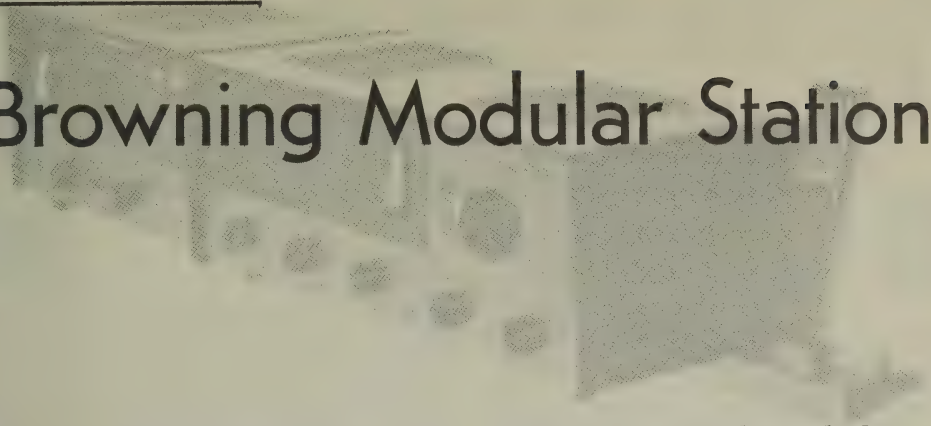
**CB HORIZONS GIGANTIC GIVEAWAY**

**CB HORIZONS MAGAZINE**

**P.O. Box 1557**

**Oklahoma City 1, Oklahoma**

# Browning Modular Station



The Browning Laboratories' modular CB station, consisting of the 23-S-NINE transmitter, and R-2700A receiver hardly needs an introduction.

The new Browning unit has caused some interesting comment among CB'ers, to the effect "We thought their 'old' S-NINE and R-2700 units were the ultimate in CB equipment."

In the explosive and vital CB market there doesn't seem to be a definite "ultimate" in equipment—as proven by Browning's decision to improve even further on their previous "super station" units.

The 23-S-NINE transmitter is, as you probably know, a 23 channel unit designed to operate on all CB channels. Movement from channel-to-channel involves a rotary switch on the front panel backed by a silver and black numbered plate.

The rig also features a built-in direct-reading SWR/modulation meter so you can keep a beady-eye on how you're making out in the roof-top department.

The unit is housed in Browning's familiar 2-tone brown and tan styling with black knobs.

On the receiving end, the R-2700A kilocycle inhaler performs ably across the band with healthy overlaps provided at each end. The tunable dial is marked off in both channel numbers and frequencies and is back-lit in jazzy green and white. An antenna peaking capacitor permits you to peak-up on each channel for maximum signal-in.

The receiver can be peaked on each channel even if there is no signal available because of the channel spotter in the transmitter. With the channel spotter in operation the receiver is left on and as you tune across the band with the receiver you can readily pick out your transmitting channel and thereupon peak your receiver. Handy, no?

The receiver, a dual conversion superhet also has provisions for 5 crystal controlled frequencies in case you go that route.

The R-2700A is also bestowed with a squelch (a very good one) and an interesting variable noise limiter which lets you decide for yourself the amount of noise-chopping your circuit is to have.

In on the air tests the receiver really pulled 'em in with excellent adjacent channel rejection. We did note that once it warmed up fully (about 30 minutes required) there was nary a detectable drift.

The transmitter is, as you've guessed, a 5 watter, however they've done a dandy job with the modulation and it will stand among the best of the *legal* units on the market today.

The transmitter and receiver are interconnected by two quickly hooked-up cables which are supplied (with connectors attached.)

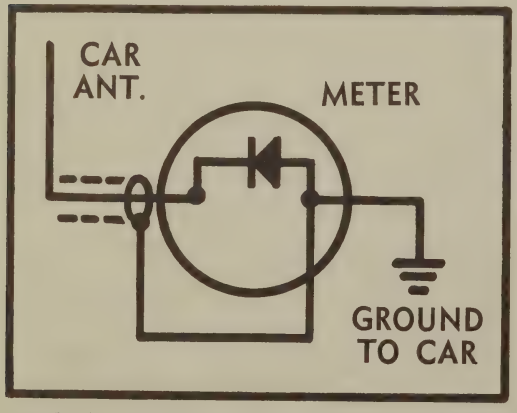
Cost for this snazzy equipment is $144 for the transmitter (with one crystal, or $189 with all crystals) and $149 for the receiver (which comes with 1 crystal).

# CB TECH TALK

Harry T. Brennan, 19Q2255, of Livonia, Michigan, suggests the background noise (the "hiss" heard in the absence of stations on channel) may be eliminated by replacing the 6BA6 RF amplifier in many sets with a type 6AH6 tube. Slight readjustment of the RF input circuit may be necessary.

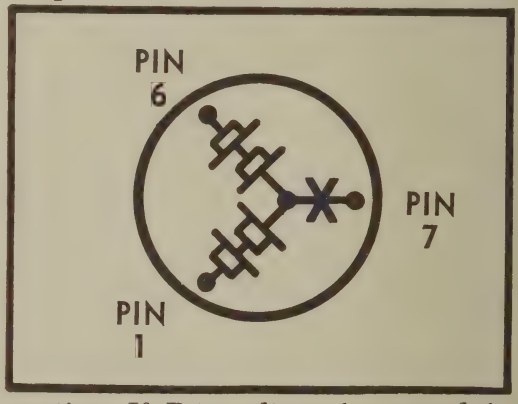
(*NOTE: The above modification reduces sensitivity of the unit, and in most cases a loss of sensitivity would be considered harmful. However, if the unit is able to receive all desired stations after the modification, the reduction in "standby" noise would be considered an improvement. Don't try this one unless you're using a good antenna installation, though, or you'll think the set is dead! Ozzie.*)

The simplest field-strength meter ever has been submitted by Tommy Storch, Long Beach, N.Y., who omitted his call letters. This gadget requires only a crystal diode (1N34, 1N69, etc.) and a 0-500 DC microammeter. The diode is connected across the terminals of the meter as shown in the schematic,




and the regular car antenna connects to one terminal while the other is grounded. If the meter tries to swing downscale rather than up, reverse the diode.

Another trick from Storch is a method of substituting silicon diodes for a 12X4 in your vibrator power supply. He uses four diodes, hooking them up as two series-connected pairs, then connects them to an old tube base as shown in the schematic. This modification raises B+ voltage by about 20 percent, so should be made with




caution. If B+ voltage is normal in the power supply, a resistor may need to be added at the point marked "X" in the schematic. The size of the resistor will have to be chosen by trial and error to keep the B+ voltage at the right value. The advantage of this modification is that the silicon diodes will last nigh onto forever!

Non-technical — but important — tip of the month comes from Sidney Reynolds, 18W2905, of Chicago. Sid points out that many things around a CB rig can hurt you when you're working on it, besides the B+ line. For instance, he lists, the lowly 12-volt line to the car battery in a mobile installation can give you a nasty burn if your ring or metal wrist-watch band happens to short it out while you work.

# CLASSIFIED

Rates for classifieds are 10c per word for advertising which, in our opinion, is obviously of a non-commercial nature. A charge of 25c per word is made to all commercial advertisers or business organizations. We do not bill for advertising in CLASSIFIEDS, nor can we acknowledge receipt of copy sent in. Full remittance MUST accompany all orders. NOTE: The products and services advertised in this section are not guaranteed by the publisher of CB HORIZONS. Closing date for the June issue is April 23, in Oklahoma City.

**2 x 3 WARNING DECAL** against illegal, 3/$1. Code caller (Q-Bird), printed circuit kit $2.50. Completely wired $3.50. Call letters or name (raised) on ⅜ inch plastic strip, 3 strips $1. Chanel nos. 1-23, $1. per set. Executive-100 transistorized S-meter, $22.50 wired. CB Products, Box 457, Encino, California.

**CB'ERS DUAL CONVERSION ADAPTER KIT,** all parts, schematic, pictorial; hear only the channel you tune. For HE-15, 15A, TR-800, 910, etc. $14.95. With tubes, $16.95. For HE-20, 20A, Mark VII; Now available 770, 771, 772-$15.50. With tubes, $17.50 or $5. deposit plus C.O.D. Bainbridge Radio, 2649 Bainbridge Ave., New York 58, N.Y.

**CB QSL CARDS**—$2.50 per 100 postpaid. Send for free brochure. F. B. Mathews-Artists, 1616 Rural St., Rockford, Ill. Special cards for CB clubs.

**YOUR CALL LETTERS**—3" high scotchlite reflective silver color, for mobile or base. Send $1. casg for set of 25¢ for sample. KGE0110, Chuck's TV, 9801 Chicago, Bloomington 20, Minnesota.

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**CB QSL!** C. Fritz, Box 1684, Scottsdale, Arizona for the world famous RAINBO CALLS, many others. Samples 25c, deductible.

**CALL LETTERS ENGRAVED** Ebony and white plastic, 2"x8"—$1.00 each plus 10c postage. Mac, 10W0798, 4911 Camp Bowie, Ft. Worth 7, Texas.

**GW-10, GW-11 USERS** praise SK-3's gain (3-6 more "S" units), compactness, less noise. Buy SK-3 RF preselector kit (build and install in one evening) for $8.99 or wired SK-3 or $11.99. Complete, postpaid. HOLSTROM ASSOCIATES, Box 8640, Sacramento 22, California.

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**CB QSLs-Brownie . . .** W3CJI/3W1974 3110C Lehigh, Allentown, Pa. Samples 25 cents. With Catalogue, 25 cents.

**MOTOROLA ALTERNATORS**—up to 55 Amp. charging ability. Never again will you have a mobile power problem. Three year guarantee. New in factory sealed cartons, only $61. each or $6. down and $5.21 per month for one year. Act-now! Echo Communications, Box 223, Cedarburg, Wisconsin.

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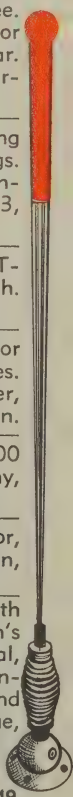
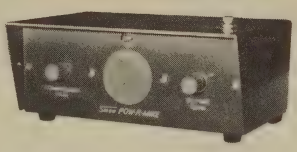
**$10 DOWN DELIVERS** your CB equipment with 12 to 24 months to pay balance. This month's special . . . any CB transmit or receive crystal, for any type of CB transceiver . . . each $2. Include 25c additional with order for postage and handling. House of Sound, 2119 Starling Avenue, New York 62, New York.



*Now Available!*

**Smea POW-R-MIKE**



Model "M" *Now Only* $39.95

- FOR USE WITH CB TRANSCEIVERS
- SELF-CONTAINED 110 V. POWER SUPPLY
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- INCREASES TALK POWER WITH NO INCREASE IN CARRIER STRENGTH
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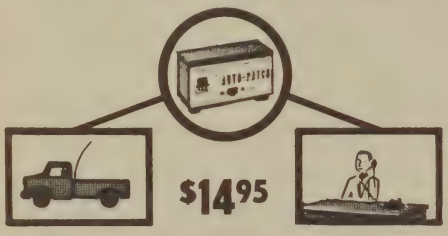
**CB "AUTO-PATCH"**

Add a Telephone to Your CB System!



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★ **FULLY AUTOMATIC**
—No Switches to Throw!

★ **CONNECTS IN 5 MINUTES**
—Anyone can do it!

★ **EXCLUSIVE CB DESIGN**
—Custom made for all transceivers

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**CB QSL!** C. Fritz, Box 1684, Scottsdale, Arizona for the world famous RAINBO CALLS, many others. Samples 25c, deductible.

**A JENNINGS SPECIAL,** for a limited time I will swap two different cards to anyone sending their CBL, QPE or QSL card. 18Q6277, Ross E. Jennings, Jr., 2005 Strathmoor Blvd., Louisville 5, Ky.

**LAFAYETTE HE-15, HE-15A** Plug in crystal receiver converter. No Wiring. No more station hunting Always tuned to your channel. Switches from tune to crystal receive, 3 positions. $10.95 with one crystal, specify channel. F. Abate, P.O. Box 206, Pompton Lakes, N. J.

**CB GOODIES**—Illustrated list 10c. 1Q5226, Lee-Deck, Box 105-H, Westfield, Massachusetts.

**SPECIAL OFFER**—#1 Send your Call Card and $1.00. Receive custom engraved call badge. Money back guarantee. Errol Engraving, Westfield, Mass.

**SPECIAL OFFER**—#2 Send your Call Card and $2.00 . . . receive custom engraved desk plaque with plexiglas base. Errol Engraving, Westfield, Mass.

**HAVE WALL-WILL COVER!** Please send your QSL cards. K1VRO 1W6216 WPE1DRU The Decker Family, 36 Hampden Street, Westfield, Mass.

**(PHONE PATCH—from Page 16)**

wires should be connected. Use the necessary length of two conductor twisted pair wire to connect between the phone lines and the patch.

### How To Run a Patch

Let's say you are talking to someone who requires a patch. You tell him to stand by while you dial the number. Don't dial with the patch turned on as this is verboten. The dialing clicks are not permitted on CB. When your party answers, tell him what it is all about. Remind him it is a one-way conversation. Then switch the patch on. You can still modulate the rig through the telephone. Tell your CB contact to transmit. You must listen in on the conversation so you will know when to transmit and receive.

There are two cardinal sins when using a phone-patch. Never put the dialing tone or pulses over the air. Equally important, never run more audio on the telephone line than is absolutely necessary.

# NCRL NEWS and VIEWS

The NCRL is pleased to report that following a very successful Chicago convention, a nation-wide membership drive is underway. Early response is excellent, with 34 states already represented in the membership roster.

The problems ahead are great. We are all familiar with the way local CB clubs often split apart at the seams over a controversial topic. Blow this up to regional and national issues, and it soon becomes apparent that the challenge is a great one . . . almost terrifying in scope.

There are some representatives of CB clubs who would like a national organization with representatives (much like our nation's congressional representative system) with elected delegates from the states, call-areas or whatever divisions you might dream up. The NCRL does not disagree with this approach . . . we merely believe it to be unsound in the early stages of development because of high cost.

So what is **our** approach? Simply this. The NCRL, as a corporation, will render its services to all associated members equally. Members will have the opportunity to help formulate national "CB opinion" through a program of legislative representation in Washington. Through a full time Washington office, NCRL members will be assured of up-to-the-minute reports on pending changes in Part 19 regulations, enforcement practices and congressional programs that could affect our service. Through membership opinion polls, your voice in national CB activities will be tallied with those of fellow CB'ers all across the land. The results of these polls will be a combined voice, for CB, resounding in Washington.

Through the NCRL, members will participate in a wide range of programs designed to make your own use of Class D CB more valuable to both your personal and business activities. The NCRL is not a super club, as many might think. Rather it draws its support from the nearly 1,000 local clubs in the nation. For example, our Washington office will direct a letter to every new CB applicant (before he obtains his license) advising him of both the league **and** (most important!) his nearest CB radio club. The applicant will be asked to visit his **local** club's very next meeting. This, we feel, will help the new CB'er get off to a proper start in CB, and through his local club he can draw upon the wisdom, experience and guidance of the older CB'ers in his region so that his first days and months on the air will not be periods of inefficient-clumsy operating that only serves to degrade the usability of the band.

The NCRL is founded on the belief that there is strength through united effort. Just as you would get little enjoyment out of watching a professional baseball game if you were the only person in a 50,000 seat stadium, as an individual CB'er you stand alone with only the protection your 5 watts offers you. **United, in a voice representing 100,000 or more CB'ers, our individual 5 watt signals combine into a powerful 500,000 watt voice of power!** Let's get your 5 watts on the roster now, start talking up NCRL in your region and help put the story across.

Write for full information, for you or your club, and join up today. All members receive and are entitled to proudly display an NCRL lapel pin, Membership wall Certificate and wallet identification card.

**NCRL MEMBERSHIP APPLICATION**
(you may use this form or submit a facsimile)

_____Enclosed non-club membership fee (annual) of $3.50

_____Enclosed club membership fee (annual) of $3.00.

I certify that I am a member of the _____ _____Radio Club,

Town _____ State_____

(Note: If you belong to a local CB club, you are entitled to join as a club member applicant—$3.00—thereby crediting your local club with your membership in the NCRL. Please indicate which you are.)

Name_____CB Call_____

Address _____

Town _____ State_____

**Mail to:**
**NCRL**
**6272 W. North Avenue**
**Chicago, Illinois**

The NCRL Chicago Convention—recently completed—indicated the growing awareness on the part of manufacturers, CB'ers and the FCC that a truly representative nation-wide CB organization is needed by Part 19 Radio. The NCRL could be that group, but in the final analysis, the decision rests with the nation's nearly 300,000 CB Radio Operators. To make you more familiar with the NCRL, its function in CB radio and its activities, CB Horizons makes this space available for a monthly report on "league news".

# GIANT CB SALE!!

| | | |
|---|---|---|
| ☐ 50 FT.—RG58U COAX CABLE | SALE | $1.95 |
| ☐ 100 FT.—RG58U COAX CABLE | SALE | $2.99 |
| ☐ 50 FT.—RG8U COAX CABLE | SALE | $4.49 |
| ☐ 100 FT.—RG8U COAX CABLE | SALE | $7.99 |

## GET THAT SIGNAL OUT WITH ULTRA-LO-LOSS FOAM COAX CABLE!!

| | | |
|---|---|---|
| ☐ 50 FT.—RG58U COAX CABLE | SALE | $2.49 |
| ☐ 100 FT.—RG58U COAX CABLE | SALE | $3.99 |
| ☐ 50 FT.—RG8U COAX CABLE | SALE | $4.95 |
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|---|---|---|
| ☐ 3-ELEMENT CB BEAM ANTENNA* | SALE | $10.99 |
| ☐ COMMAND COMET ANTENNA (Reg. $10) Top-loaded mobile whip+trunk lid mount | SALE | $6.99 |
| ☐ COMMAND STANDARD II MOBILE ANTENNA* heavy-duty body mount+spring+102" whip | SALE | $6.69 |
| ☐ COMMAND CGP-1 GROUND PLANE (Reg. $16) solid alum. rods, heavy duty | SALE | $9.99 |
| ☐ COMMAND CORTEZ MOBILE ANTENNA top-loaded, st. steel, chrome body mount | SALE | $4.99 |
| ☐ COMMAND CORSAIR MOBILE ANT.* bumper mt.+spring+102" whip | SALE | $8.99 |
| ☐ COMMAND CORSAIR II MOBILE ANT* double bumper mount +spring+102" whip | SALE | $9.99 |
| ☐ FAMOUS MAKE COLINEAR ANTENNA* (Reg. $30) | SALE | $24.99 |

| | | |
|---|---|---|
| ☐ CDR ANTENNA ROTATORS (Reg. $26) | SALE | $19.98 |
| ☐ JK CB CRYSTALS—TRANSMIT OR RECEIVE specify make, model, channel | SALE | $1.99 |
| ☐ GENERATOR NOISE SUPPRESSORS (tuneable) (GNS) (Reg. $4) 3 or more — $1.49 ea. | SALE | $1.99 |
| ☐ 15-PC DB SILENCER KIT (Model SN-2) consists of GNS+ spark plug & dist. suppressors, gen. cond.+hy-pass feedthrus, etc. | SALE | $3.99 |
| ☐ CRYSTAL SOCKETS FOR CB | | 10 for 89c |
| ☐ S-METERS FOR CB | SALE | $2.99 |
| ☐ BASE-LOADED INDOOR CB ANTENNA | SALE | $2.49 |
| ☐ TOKYO ROSE STUDIO MIKES FOR CB | SALE | $4.89 |

* THESE ANTENNA SHIPPED RAILWAY EXPRESS COLLECT ONLY

Check items wanted. Return ad or order w/check or money order. Include postage, excess refunded. Sorry, no C.O.D.'s.

GROVE ELECTRONIC SUPPLY COMPANY
4111 W. Belmont Avenue
Chicago 41, Illinois

☐ Rush items checked.
☐ Send latest CB sale catalog.

Name .....
(please print)

Address .....

City ..... Zone .... State .....


## (CONVENTION REPORT—

cont. from Page 27)

Ernie Coons and Gar Greene Jr., 1W4844 (CBH's roving staffer) fight over the winning ticket for the Browning Golden Base Station at the 5PM Sunday drawing. Ernie won the ticket, Gar apparently the young lady who helped draw the winning ticket!

Raytheon's Ed Kukula (right) accepts the winning ticket for the Ray-Tel drawing from Vickie Jasinski, one of the pretty young misses who kept CB'ers headed in the right direction around the Morrison's convention area during the convention.

other prizes awarded generally by the NCRL in the closing hours Sunday afternoon, the 11th.

Coverage of the meet wouldn't be fair without a kind word for NCRL Prexy Chuck Greene, 18A6256, and his crew. While we would like to see more emphasis on technical question and answer sessions, the conference was a great success and congratulations are definitely due the NCRL.

# Editorial from the Publisher

Another Horizons' publication (Communication Horizons) carries a story this month titled **"Rob Peter to Pay Paul?".**

Written by CH Managing Editor Jim Kyle, the story delves into the recent FCC proposal to instigate licensing fees for all forms of business, commercial and industrial radio services. Amateur class licensees do not escape the wrath of the Commission's proposed licensing plan . . . our ham friends too will be asked to fork over a tippance when they apply.

The story, simply, is this. The exceedingly high cost of maintaining the FCC has grown way out of proportion to its budget in recent years. The spiral growth of CB radio, greatly increased amateur, broadcasting and industrial radio service applicants, and the ensuing additional complexities of a mushrooming American awareness of two-way radio communications, has forced the FCC to become nothing more than a rubber stamping arm of the government. Gone are the days when the FCC could field sufficient engineers and manpower to combat illegal operation of radio stations. Gone are the days when the FCC could adequately monitor the entire wide range of radio spectrum, police it and enforce regulations over it.

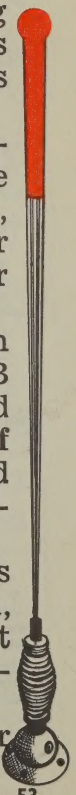
The Commission this year hopes to build a new field monitoring station in Puerto Rico. This is the first new monitoring station in nearly a decade. A decade which, incidentally, has seen the number of radio transmitters in use increase from less than one million to nearly five million!

So what does all this have to do with the proposed $10. licensing fee for CB radio? Simply this. In the CB service alone, we expect to see 100,000 new applications in 1962. At $10. a crack, this is one million dollars in revenue for the Commission. Their **entire budget**, incidentally, is proposed at only $13,000,000 for 1962-63!

**If** the Commission would assure us that the revenue taken in from CB license applications would apply directly to the CB licensing, processing and monitoring duties, we would be glad to endorse the project. **But**, we want no part of this program **if** the money taken in from CB applications winds up as improved service for the amateur applicants, the industrial two-way applicants or some other non-CB group.

File your petitions (pro or con) in 14 copies, with signatures on the first copy, at the Federal Communications Commission, Washington 25, D.C. by April 16. Say you do or do not support the "FCC Proposal to Establish Fees for Licensing and Regulatory Services—Docket 14507" and state your reasons why.

Bob Cooper, Jr., 12Q2339, Publisher



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HE-29A

Ship to Shore

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NO LICENSES, TESTS OR AGE LIMITS

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**32.95**
2 for 64.00
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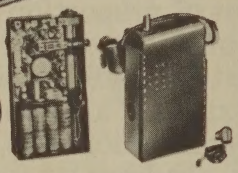
PORTABLE—POCKET SIZE Only 6⅜x3¼x1⅝"



● Completely Wired—Ready to Operate ● Fully Transistorized—9 Transistors plus 1 Diode ● Uses Inexpensive Penlight Batteries ● No License, Tests or Age Limits ● Comes with Leather Carrying Case, Earphone, Antenna, Batteries and Crystals

As simple and easy to use as the telephone—and twice as handy. Receives and transmits up to 1.5 miles under average conditions. Weighs only 18-oz. and slips into your pocket. Push-to-talk button operates built-in speaker as sensitive microphone.

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The Scoop Buy for Citizens Band Mobiles

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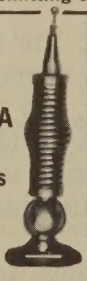

● Chrome Swivel Base ● Stainless Steel Spring ● 102½" Stainless Steel Whip for Optimum 11-Meter Performance

Chrome swivel ball mount base designed for mounting on any surface. Stainless steel spring holds rod in property adjusted position.

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● Permits Easy Tune-Up For Maximum Transmitter Output ● Earphone Jack To Monitor Audio ● Tuned Input 2.53 to 57 MC

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Ideal for use with Ham, Citizens Band or other transmitters within its frequency range. Tunes Transmitter and antenna to maximum RF output. Big 200 μA meter. Powered by 1.5 V battery.

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# HERE'S THE NEW, 2-WAY HAND-HELD TRANSCEIVER THAT OUTPERFORMS 'EM ALL!

## PERSONAL *Messenger*

**• No license required—may be used at once! • Meets FCC requirements for use with licensed Citizens' Band stations, too!**

This is the new "Personal Messenger"—a superbly engineered 2-way crystal-controlled transceiver so compact it fits in your hand—so flexible it can be used in thousands of applications! 11 transistors and 4 diodes—superheterodyne receiver with exclusive tuned R.F. amplifier gives you twice the sensitivity and *more than 40% more range than units with conventional circuitry! Powerful two-stage transmitter delivers more power output than similar units with the same rated input!* Unmatched audio intelligibility and razor-sharp voice reproduction—automatic noise limiter—automatic volume control—positive squelch control—elastic hand strap—operates on penlight or rechargeable nickel-cadmium batteries.

**$109.50**

**ILLUSTRATED AT LEFT**—The Viking "Messenger"—maximum legal power Citizens' Band crystal-controlled transceiver. Excellent receiver sensitivity and selectivity—highly efficient transmitter punches your signal home! Built-in squelch—AVC—ANL. With tubes, push-to-talk microphone and crystals for 1 channel. **FROM $134.95**

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# ABC's OF MOBILE WHIPS FOR CITIZENS BAND

## Loaded System is Best!

FULL LENGTH QUARTER WAVE WHIP

9 ft. HIGH!

PLUS feed point impedence 15-20 ohms requires matching

NOT the best mobile whip

P.S. If you insist on a full length whip, body mount and spring- COMPARE OUR MODEL BSW at $14.95 List

## The Hy-Gain "Toppers"

Rugged, stainless steel mobile whips, 50" in height, with polyethylene enclosed coil capsule sealed permanently to top portion.

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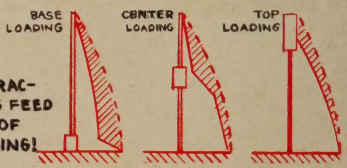
|---|---|
| **TLW-M:** with chrome-plated, single hole, top mounting body mount. | **$14.90 List** |
| **TLWT-M:** identical to TLW-M but in three sections for telescoping down to 28". | **$14.90 List** |
| **TLW:** with standard 3/8"x24 threaded base stud for use with adaptive mounts. | **$11.60 List** |
| **TLW-T:** identical to the TLW but in three sections for telescoping down to 28". | **$12.00 List** |

## COIL LOADED SYSTEMS

✱ SHORTER - only 50" - easier to mount higher on auto - allows better ground plane efficiency if mounted on trunk, top, fender, etc.

BUT... 78% of radiation is from bottom half of whip - only 22% from top half.

*so least compromise comes from loading at top rather than at bottom*




**PLUS...**

TOP LOADING CHARACTERISTICALLY HAS FEED POINT IMPEDANCE OF 50 ohms. NO MATCHING!

*Only The HY-GAIN Topper can offer this optimum transfer of energy!*

**HY-GAIN RECOMMENDED SYSTEM**

TLWM whip mounted in place of broadcast aerial with CPR Coupler - receives AM Radio, transceives CB simultaneously.

*Write for complete technical bulletin*

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